SYNOPSIS OF THE SUPRA-SPECIFIC TAXA OF THE TRIBE HARPALINI (COLEOPTERA: CARABIDAE)

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This worldwide synopsis of supra-specific taxa of the tribe Harpalini (Coleoptera: Carabidae) classifies 232 of the 238 valid genera and subgenera together with associated genus group synonyms and 9 species groups (accorded informal rank equivalent to subgenera) into 4 subtribes: Pelmatellina; Anisodactylina; Stenolophina; Harpalina. Six genera are listed as incertae sedis *and not placed to subtribe. The state of taxonomic knowledge of the species of each valid supra-specific taxon is evaluated, and the most useful species revisions are listed.*

Type species are designated for: Athrostictus *Bates (*Athrostictus sericatus *Bates);* Batoscelis *Dejean (*Agonoderus oblongus *Dejean);* Conicus *Motschulsky (*Harpalus acuminatus *Motschulsky);* Dixus *Billberg (*Scarites bucephalus *Olivier);* Erpeinus *Motschulsky (*Harpalus pastor *Motschulsky);* Euthenarus *Bates (*Euthenarus brevicollis *Bates);* Harpaloxys *Reitter (*Harpalus cardioderus *Putzeys);* Neopangus *Tschitschérine (*Neopangus breviformis *Tschitschérine);* Nesacinopus *Tschitschérine (*Cratognathus pelagicus *Wollaston);* Oedesis *Motschulsky (*Ditomus causasicus *Dejean);* Ooistus *Motschulsky (*Harpalus taciturnus *Dejean);* Oosoma *Nietner (*Oosoma arenaria *Nietner);* Oreoxenus *Tschitschérine (*Bradycellus mannerheimi *Sahlberg);* Osimus *Motschulsky (*Acinopus ammophilus *Dejean);* Pheuginus *Motschulsky (*Harpalus optabilis *Dejean);* Platus *Motschulsky (*Harpalus calcitrapus *Motschulsky). Type species are listed for all remaining formal supra-specific taxa.*

Neophygas *is proposed as replacement name for* Phygas *Motschulsky, 1848, a junior homonym of* Phygas *Trietschke, 1833.*

Pseudokareya *Schauberger is declared a* nomen nudum *because Schauberger (1933) did not designate a type species.*

Csiki (1932) treated as junior homonyms 12 genus group names which in fact were only subsequent misinterpretations of the original names. These 12 combinations have no taxonomic status, need no type species, and future workers need not refer to them as separate taxa. They are: Acupalpus *Thomson (not Latreille);* Aepus *LeConte (not Samouelle);* Asmerinx *Reitter (not Tschitschérine);* Bradycellus *Motschulsky (not Erichson);* Cratognathus *Perty (not Dejean);* Cratognathus *Wollaston (not Dejean);* Dichirus *Seidlitz (not Mannerheim);* Dioryche *Péringuey (not MacLeay);* Ditomus *Solier (not Bonelli);* Tachycellus *Ganglbauer (not Morawitz);* Tachycellus *Horn (not Morawitz);* Tachycellus *Seidlitz (not Morawitz).*

New synonyms of Stenolophidae Kirby (the subtribe Stenolophina of this paper) are: Acupalpini Tschitschérine; Anthracini Schuler; Cratocarini Casey; Dichirotrichi Burmeister; Hippolaetina Basilewsky; Pachytracheli Csiki. New synonyms of Harpalii Bonelli (the subtribe Harpalina of this paper) are: Acinopidae Laporte; Amblystomini Fauvel; Bleusei Antoine; Bradybaeni Csiki; Cratacanthi Lindroth; Daptini LeConte; Dioctini Csiki; Diorychi Csiki; Ditomici Bonelli; Eriotomi Antoine; Granigeri Antoine; Heteracanthi Csiki; Machozeti Csiki; Pachycarina Stichel.

New genus group synonyms are (junior synonyms listed first): Africobatus *Basilewsky and* Siopelus *Murray;* Anoplogenius *Chaudoir and* Loxoncus *Schmidt-Goebel;* Carbanus *Andrewes and* Trichotichnus *Morawitz;* Cratocara *LeConte and* Polpochila *Solier;* Eriocypas *Tschitschérine and* Oedesis *Motschulsky;* Eriotomus *Piochard de la Brûlerie and* Oedesis *Motschulsky;* Heterohyparpalus *Basilewsky and* Parophonus *Ganglbauer;* Hyparpalus *Alluaud and* Parophonus *Ganglbauer;* Liosepus *Basilewsky and*

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Siopelus *Murray;* Metarpalus *Jeannel and* Axinotoma *Dejean;* Neosiopelus *Basilewsky and* Siopelus *Murray;* Orinophonus *Alluaud and* Siopelus *Murray;* Pardileus *Des Gozis and* Platus *Motschulsky;* Tukyellus *Basilewsky and* Parasiopelus *Basilewsky.*

Axinotoma basilewskyi *is proposed as a new name for* Neosiopelus kilimanus *Basilewsky, 1962, a junior secondary homonym of* Orinophonus kilimanus *Alluaud, 1917.*

Trachysarus neopallipes *is proposed as a new name for* Acupalpus pallipes *Germain, 1855, a junior primary homonym of* Acupalpus pallipes *Dejean, 1829.*

Notes are provided on important faunal works useful in identification of harpalines.

Dans cette revue mondiale des taxa supra-spécifiques de la tribu des Harpalini nous reconnaissons 4 sous-tribus: Pelmatellina; Anisodactylina; Stenolophina; Harpalina. Nous classifions avec les synonymes associés du genre-groupe 232 des 238 genres et sous-genres valides et 9 espèce-groupes (classe non formalisée équivalent du sous-genre). Six genres sont de positions incertaines, et aussi ne sont pas placés dans les sous-tribus. Nous évaluons la situation taxonomique des espèces de chaque taxon supra-spécifique, et nous pourvoyons une liste des meilleures revisions des espèces de ces taxa.

Nous avons designé l'espèce-type des taxa supra-spécifiques suivants: Athrostictus *Bates (*Athrostictus sericatus *Bates);* Batoscelis *Dejean (*Agonoderus oblongus *Dejean);* Conicus *Motschulsky (*Harpalus acuminatus *Motschulsky);* Dixus *Billberg (*Scarites bucephalus *Olivier);* Erpeinus *Motschulsky (*Harpalus pastor *Motschulsky);* Euthenarus *Bates (*Euthenarus brevicollis *Bates);* Harpaloxys *Reitter (*Harpalus cardioderus *Putzeys);* Neopangus *Tschitschérine (*Neopangus breviformis *Tschitschérine);* Nesacinopus *Tschitschérine (*Cratognathus pelagicus *Wollaston);* Oedesis *Motschulsky (*Ditomus causasicus *Dejean);* Ooistus *Motschulsky (*Harpalus taciturnus *Dejean);* Oosoma *Neitner (*Oosoma arenaria *Nietner);* Oreoxenus *Tschitschérine (*Bradycellus mannerheimi *Sahlberg);* Osimus *Motschulsky (*Acinopus ammophilus *Dejean);* Pheuginus *Motschulsky (*Harpalus optabilis *Dejean);* Platus *Motschulsky (*Harpalus calcitrapus *Motschulsky). Nous avons dénoté l'espèce-type de tous les autres taxa supra-spécifiques formels.*

Nous proposons Neophygas *comme remplacement du nom* Phygas *Motschulsky, 1848, un homonyme récent de* Phygas *Trietschke, 1833.*

Nous déclarons Pseudokareva *Schauberger un* nomen nudum *car Schauberger n'a pas désigné une espèce-type.*

Csiki (1932) a traité comme homonymes récents 12 noms du genre-groupe qui, en fait, sont simplement des noms originaux interprétés par la suite incorrectement. Ces nouvelles combinaisons n'ont aucune valeur taxonomique, ne requièrent aucune espèce-type, et peuvent être ignorées dans le futur. Elles sont: Acupalpus *Thomson (nec Latreille);* Aepus *LeConte (nec Samouelle);* Asmerinx *Reitter (nec Tschitschérine);* Bradycellus *Motschulsky (nec Erichson);* Cratognathus *Perty (nec Dejean);* Cratognathus *Wollaston (nec Dejean);* Dichirus *Seidlitz (nec Mannerheim);* Dioryche *Péringuey (nec MacLeay);* Ditomus *Solier (nec Bonelli);* Tachycellus *Ganglbauer (nec Morawitz);* Tachycellus *Horn (nec Morawitz);* Tachycellus *Seidlitz (nec Morawitz).*

Les nouveaux synonymes dans les Stenolophidae Kirby (la sous-tribu des Stenolophina dans cette publication) sont: Acupalpini Tschitschérine; Anthracini Schuler; Cratocarini Casey; Dichirotrichi Burmeister; Hippolaetina Basilewsky; Pachytracheli Csiki. Les nouveaux synonymes des Harpalii Bonelli (la sous-tribu Harpalina de cette publication) sont: Acinopidae Laporte; Amblystomini Fauvel; Bleusei Antoine; Bradybaeni Csiki; Cratacanthi Lindroth; Daptini LeConte; Dioctini Csiki; Diorychi Csiki; Ditomici Bonelli; Eriotomi Antoine; Granigeri Antoine; Heteracanthi Csiki; Machozeti Csiki; Pachycarina Stichel.

Les nouveaux synonymes des genre-groupes sont (nous inscrivons en premier les synonymes récents): Africobatus *Basilewsky et* Siopelus *Murray;* Anoplogenius *Chaudoir et* Loxoncus *Schmidt-Goebel;* Carbanus *Andrewes et* Trichotichnus *Morawitz;* Cratocara *LeConte et* Polpochila *Solier;* Eriocypas *Tschitschérine et* Oedesis *Motschulsky;* Eriotomus *Piochard de la Brûlerie*

et Oedesis *Motschulsky;* Heterohyparpalus *Basilewsky et* Parophonus *Ganglbauer;* Hyparpalus *Alluaud et* Parophonus *Ganglbauer;* Liosepus *Basilewsky et* Siopelus *Murray;* Metarpalus *Jeannel et* Axinotoma *Dejean;* Neosiopelus *Basilewsky et* Siopelus *Murray;* Orinophonus *Alluaud et* Siopelus *Murray;* Pardileus *Des Gozis et* Platus *Motschulsky;* Tukyellus *Basilewsky et* Parasiopelus *Basilewsky.*

Nous proposons Axinotoma basilewsky *comme nouveau nom pour* Neosiopelus kilimanus *Basilewsky, 1962, un homonyme récent secondaire de* Orinophonus kilimanus *Alluaud, 1917.*

Nous proposons Trachysarus neopallipes *comme nouveau nom pour* Acupalpus pallipes *Germain, 1855, un homonyme récent primaire d'*Acupalpus pallipes *Dejean, 1829.*

Nous dénotons les travaux faunique les plus importants dans l'identification des harpalini.

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INTRODUCTION

The tribe Harpalini is a diverse (238 genera and subgenera, approximately 2,000 species) group of carabid beetles present in all 6 of the faunal regions discussed by Darlington (1957). Many genera and subgenera are similar in appearance, and workers have had great difficulty in determining phylogenetic relationships among its supra-specific taxa. Ball (1960a) commented that members of the tribe seem sufficiently varied to suggest they represent a number of distinct lines of evolution but are sufficiently uniform to make decisions difficult as to what the lineages are, and thus as to how to classify the group.

The result of the above has been nomenclatural chaos, especially for supra-specific taxa; this has made difficult selection of phylogenetically related taxa (from species to subtribes) for study and has discouraged work on the tribe. The purpose of this paper is to clarify the supra-specific classification and stimulate research on harpalines by grouping genera into hopefully monophyletic subtribes, providing a diagnosis for each subtribe, resolving supra-specific nomenclatural problems, listing and where necessary designating type species for each formal genus group, evaluating taxonomic knowledge of the species of each valid supra-specific taxon, listing the most useful species revisions, and providing information on identification of harpalines.

CLASSIFICATION

The Tribe Harpalini

Harpalii Bonelli, 1810: Tabula Synoptica.

Diagnosis. – Head with 1 seta over each eye. Mandibles without setae in scrobes. Antennae inserted on sides of head directly between eyes and mandible bases; articles 3 to 11 or 4 to 11 covered with fine short setae; articles 1 to 2 or 1 to 3 each with ring of setae at apices only. Labial palpi with terminal articles subequal in size to penultimate articles. Fore coxal cavities closed and uniperforate. Mid coxal cavities entirely enclosed by sterna; mesepimera not extended to mid coxal cavities. Fore tibiae with inner spurs terminal, outer spurs subapical; both spurs more or less associated with antennal cleaner. Scutellum of mesothorax exposed. Elytra without plicae near apices. Abdomen with 6 visible sterna. Median lobe of male genitalia with basal bulb well developed in most taxa; shaft immediately distal to basal bulb strongly arcuate in most taxa. Parameres of male genitalia short and broad, conchoid, or oviform; similar in shape except right one smaller; without setae in most taxa.

Discussion. – The only recent attempt to classify genera and subgenera of harpalines into subtribes on a worldwide basis was that by Csiki (1932) in the Coleopterorum Catalogus. No reasons were given for the proposed arrangements. Subsequent workers dealt with harpalines of only specific areas of the world but agreed that the system proposed by Csiki does not properly classify the genera and subgenera.

A worldwide system of classification is needed in order to group genera and subgenera into hopefully monophyletic units which workers can select for study. Van Emden (1953) proposed a classification of Neotropical harpalines in which Neotropical genera were grouped into 5 subtribes. Ball (1960a, 1960b, 1963, 1968) and Lindroth (1968) used van Emden's system to classify North American harpalines, and Darlington (1968) applied the system to New Guinea forms.

I believe the system proposed by van Emden (1953) can with modifications be used in constructing a worldwide classification of the harpalines. I propose in this paper a system which groups the genera into 4 subtribes. The taxa of each subtribe and the subtribes themselves are arranged in a provisional phylogenetic order based on my studies and on published studies and personal suggestions from other workers. Lindroth (1968) placed species of several North American genera in informal groups of possibly equal weight to subgenera but not formally named as subgenera. Where subgeneric names are not available, I list such groups by the informal names used by Lindroth (1968). Designation of formal subgeneric names for these groups should be done only in conjunction with detailed revisions of them. Species revisions listed for the various supra-specific taxa are based on references in Csiki (1932), on examination of the Zoological Record through 1970, and on personal knowledge of the literature on Carabidae. Some revisions published since 1970 may be missing.

Genus group-author combinations without taxonomic status

Csiki (1932) treated as junior homonyms 12 genus group names which in fact were only subsequent misinterpretations of the original names. These 12 combinations have no taxonomic status, need no type species, and future workers need not refer to them as separate taxa. They are: *Acupalpus* Thomson (not Latreille); *Aepus* LeConte (not Samouelle); *Asmerinx* Reitter (not Tschitschérine); *Bradycellus* Motschulsky (not Erichson); *Cratognathus* Perty (not Dejean); *Cratognathus* Wollaston (not Dejean); *Dichirus* Seidlitz (not Mannerheim); *Dioryche* Péringuey (not MacLeay); *Ditomus* Solier (not Bonnelli); *Tachycellus* Ganglbauer (not Morawitz); *Tachycellus* Horn (not Morawitz); *Tachycellus* Seidlitz (not Morawitz).

The Subtribe Pelmatellina

Pelmatellinae Bates, 1882: 67.

Diagnosis. – Mentum and submentum separated by complete transverse suture. Penultimate articles of labial palpi each with 2 or 3 setae on anterior margin. Apex of prosternal lobe without setae. Fore tarsi of all males and mid tarsi of some males with 1 or more of first 4 articles laterally expanded and with ventral spongy pubescence.

Distribution. – Taxa are concentrated in the Neotropical and Australian Regions; 2 species of *Pelmatellus* enter the Nearctic Region.

Supra-specific taxa. –

Nemaglossa Solier

Nemaglossa Solier, 1849: 215. Type Species: *Nemaglossa brevis* Solier, by original designation and monotypy.

Nematoglossa Gemminger and Harold, 1868: 385. (invalid emendation).

This monobasic genus occurs in Chile.

Lecanomerus Chaudoir

Lecanomerus Chaudoir, 1850: 446. Type Species: *Lecanomerus insidiosus* Chaudoir, by monotypy.

Thenarotes Bates, 1878c: 320. Type Species: *Thenarotes tasmanicus* Bates, by monotypy.

This genus contains 35 species in the Australian Region.

Darlington (1968) provided a key to the New Guinea species. A revision is needed.

Pelmatellus Bates

Pelmatellus Bates, 1882: 68: Type Species: *Pelmatellus nitescens* Bates, designated by Goulet, 1974: 84.

subgenus *Thenarellus* Bates

Thenarellus Bates, 1882: 69. Type Species: *Thenarellus leucopus* Bates, by monotypy.

Goulet (1974) revised the 2 species of this Neotropical subgenus.

subgenus *Pelmatellus* Bates

Pelmatellus Bates, 1882: 68. Type Species: *Pelmatellus nitescens* Bates, designated by Goulet, 1974: 84.

Goulet (1974) revised the 9 North and Middle American species. South America contains 4 additional named forms; study of the South American fauna will probably result in description of new species.

Notospeophonus Moore

Notospeophonus Moore, 1962: 188. Type Species: *Notospeophonus castaneus* Moore, by original designation and monotypy.

This Australian genus contains 3 cave dwelling species. Original descriptions (Moore, 1962, 1964) aid in identification.

Syllectus Bates

Syllectus Bates, 1878a: 191. Type Species: *Syllectus anomalis* Bates, by monotypy.

This monobasic genus occurs in New Zealand.

Trachysarus Reed

Trachysarus Reed, 1874: 62. Type Species: *Acupalpus pallipes* Germain, designated by Straneo, 1955: 138. *Trachysarus neopallipes* here proposed as replacement name for *A. pallipes* Germain, 1855, a junior primary homonym of *A. pallipes* Dejean, 1829.

Straneo (1955) provided a key to the 8 species, all endemic to Islas Juan Fernandez, and declared that a ninth species, *T. antarcticus* Reed from Valdivia, Chile probably does not belong to the genus.

The Subtribe Anisodactylina

Anisodactylides Lacordaire, 1854: 257, 268.
Eurytrichini LeConte, 1847: 376.
Anisotarsi Csiki, 1932: 1039.
Geopini Csiki, 1932: 1026.
Gnathaphani Schauberger, 1934a: 104.

Diagnosis. – Mentum and submentum separated by complete transverse suture, fused laterally but separated medially, or completely fused. Mentum of all species but *Rhysopus klynstrai* Andrewes (which lacks setae) with 1 seta each side of median area of apex; when tooth present, such seta situated at each side of tooth base. Submentum of all species but *Phanagnathus overlaeti* Burgeon with 1 long inner and 1 short outer seta on each side (in *P. overlaeti* with only 1 long seta on each side). Ligula narrow or expanded at apex; with 2 distal ventral setae; additional setae present in species of *Pseudanisotarsus* and *Progonochaetus.* Paraglossae membranous; glabrous in most taxa. Penultimate articles of labial palpi each with 3 or more setae on anterior margin. Fore tarsi and mid tarsi of some male *Progonochaetus jeanneli* Basilewsky and of some male *Dicheirus dilatatus angulatus* Casey with articles 1 to 4 or 2 to 4 laterally expanded and with ventral spongy pubescent vestiture. Fore tarsi of males of all other species and mid tarsi of males of most other species with articles 1 to 4 or 2 to 4 laterally expanded or biseriate beneath. Median lobe arcuate, symmetrical, and with ostium dorsal in position in most species; dorsal membranous area various. Species of varied sizes, approximately 5 to 20 mm.

Distribution. – Species of this subtribe are found in all 6 faunal regions.

Discussion. – Arrangement and definition of the 40 valid supra-specific taxa follows that of my 1973 revision of the subtribe and my 1974 paper on *Allendia* Noonan, except that *Parabaris* Broun and *Gaioxenus* Broun are here treated by me as members of the subtribe.

Supra-specific taxa. –

Allocinopus Broun

Allocinopus Broun, 1903: 607. Type Species: *Allocinopus sculpticollis* Broun, by monotypy.

This endemic New Zealand genus contains 5 species; a revision is needed.

Triplosarus Bates

Triplosarus Bates, 1874: 270. Type Species: *Triplosarus fulvescens* Bates, by monotypy.

This endemic New Zealand genus contains 2 named forms which may be conspecific; a revision is needed.

Crasodactylus Guérin-Méneville

Crasodactylus Guérin-Méneville, 1847: 50. Type Species: *Crasodactylus punctatus* Guérin-Méneville, by monotypy.

This genus contains *C. indicus* Andrewes from western India and *C. punctatus* Guérin-Méneville which inhabits sandy areas from western India south to the mountains of Kivu in the Zaire Republic.

Cenogmus Sloane

Cenogmus Sloane, 1898: 456, 457, 460. Type Species: *Cenogmus castelnaui* Csiki, designated by Noonan, 1973: 287.

This genus contains 2 Australian species and one found in Australia and Tasmania. Additional undescribed species may exist; a revision is needed.

Parabaris Broun

Parabaris Broun, 1881: 654. Type Species: *Parabaris atratus* Broun, by monotypy.

This monobasic genus occurs in New Zealand.

Gaioxenus Broun

Gaioxenus Broun, 1910: 7. Type Species: *Gaioxenus pilipalpis* Broun, by monotypy.

This monobasic genus occurs in New Zealand.

Hypharpax W. S. MacLeay

Hypharpax W. S. MacLeay, 1825: 22. Type Species: *Harpalus (Hypharpax) lateralis* W. S. MacLeay (= *Hypharpax dentipes* Wiedemann), by monotypy.
Sagraemerus Redtenbacher, 1868: 13. Type Species: *Sagraemerus javanus* Redtenbacher (= *Hypharpax dentipes* Wiedemann), by monotypy.

This genus is distributed from Tasmania, through Australia to New Guinea, the Celebes, Java and Sumatra, and also occurs in New Zealand; most of the 30 species are in Australia. A revision is needed.

Gnathaphanus W. S. MacLeay

Gnathaphanus W. S. MacLeay, 1825: 20. Type Species: *Trechus (Gnathaphanus) vulneripennis* W. S. MacLeay, by monotypy.
Pachauchenius W. J. MacLeay, 1864: 116. Type Species: *Pachauchenius laeviceps* W. J. MacLeay (= *G. melbournensis* Laporte), by monotypy.
Mirosarus Bates, 1878c: 319. Type Species: *Mirosarus insularis* Bates (= *G. melbournensis* LaPorte), by monotypy.
Microsarus. – typographical error in index (p. 617) to journal in which Bates, 1878c, published original description of *Mirosarus.*
Iwosiopelus Nakane & Ishida, 1959: 137. Type Species: *Iwosiopelus musudai* Nakane & Ishida, by monotypy.

Most of the 25 species are endemic to or at least centered in the Australian Region; a few extend from the Australian Region to the Oriental, and four occur in extreme eastern portions of the Palaearctic Region. See Darlington (1968) for a key to New Guinea species and (1969) for those of Micronesia, and Habu (1973) for the 2 Japanese forms. A revision is needed.

Pseudanisotarsus Noonan

Pseudanisotarsus Noonan, 1973: 280, 290. Type Species: *Anisotarsus nicki* van Emden, by original designation and monotypy.

The single included species is known from southern South America.

Allendia Noonan

Allendia Noonan, 1974: 220. Type Species: *Harpalus chilensis* Solier, by original designation and monotypy.

The single species occurs in southwestern South America.

Criniventer van Emden

Criniventer van Emden, 1953: 519. Type Species: *Anisodactylus rufus* Brullé, by original designation and monotypy.

The single species lives in Argentina, Chile, and Uruguay, South America.

Notiobia Perty

Notiobia Perty, 1830: 13. Type Species: *Notiobia nebrioides* Perty, by monotypy.

subgenus *Anisotarsus* Chaudoir

Anisotarsus Chaudoir, 1837: 41. Type Species: *Anisotarsus brevicollis* Chaudoir, designated by van Emden, 1953: 519.
Diaphoromerus Chaudoir, 1843: 402. Type Species: *Diaphoromerus iridipennis* Chaudoir, by monotypy.
Eurytrichus LeConte, 1847: 387. Type Species: *Feronia terminata* Say, designated by van Emden, 1953: 525.
Stilbolidus Casey, 1914: 171, 206. Type Species: *Harpalus mexicanus* Dejean, by original designation.

This subgenus contains 25 species in the New World and 31 in the Australian Region. Noonan (1973) revised the 13 species of North and Central America; the remaining species need study.

subgenus *Notiobia* Perty

Notiobia Perty, 1830: 13. Type Species: *Notiobia nebrioides* Perty, by monotypy.
Rhagodactylus Chaudoir, 1835: 431. Type Species: *Rhagodactylus brasiliensis* Chaudoir (= *Notiobia nebrioides* Perty), by monotypy.
Batrachion Chevrolat, 1842: 500. Type Species: *Notiobia limbipennis* Bates, designated by Noonan, 1973: 321.
Batrachium Agassiz, 1847: 44. (invalid emendation of *Batrachion*).

Noonan (1973) revised 9 North American and 1 Central American species. The 17 remaining named forms, from Central and South America, need revision.

subgenus *Diatypus* Murray

Diatypus Murray, 1858: 343. Type Species: *Diatypus dohrnii* Murray, designated by Jeannel, 1946: 158.

Dichiropsis Jeannel, 1946: 157, 158. Type Species: *Anisodactylus picinus* Chaudoir, by original designation.

Paradiatypus Basilewsky, 1950: 19. Type Species: *Diatypus smithi* Murray, by original designation.

Basilewsky (1950) provided keys for identification of the 10 species of this Ethiopian subgenus.

Anisostichus van Emden

Anisostichus van Emden, 1953: 520. Type Species: *Harpalus laevis* Curtis, by original designation.

Van Emden (1953) provided a key to the 4 species of this southern South American genus.

Scybalicus Schaum

Scybalicus Schaum, 1862: 118. Replacement name for *Apatelus* Schaum. Type Species: *Harpalus oblongiusculus* Dejean, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus name must have the same type species as the original one.

Apatelus Schaum, 1860: 560. Type Species: *Harpalus oblongiusculus* Dejean, by monotypy. (*Apatelus* Schaum, 1860 is a junior homonym of *Apatelus* Mulsant and Rey, 1859).

Bedel (1895-1900) provided keys to 2 of the 3 species in this Palaearctic genus.

Progonochaetus Müller

Progonochaetus Müller, 1938: 245. Type Species: *Anisodactylus xanthopus* Dejean, by original designation.

subgenus *Progonochaetus* G. Müller

Progonochaetus Müller, 1938: 245. Type Species: *Anisodactylus xanthopus* Dejean, by original designation.

Dichaetochilus Basilewsky, 1946a: 67. Type Species: *Selenophorus aeruginosus* Dejean, by original designation.

Oligoxemus Basilewsky, 1948a: 66. Type Species: *Anisodactylus limbatus* Quendenfeldt, by original designation and monotypy.

This subgenus contains 39 species. See Basilewsky (1950) for a key to the 38 Ethiopian species; the single Oriental species, *P. laevistriatus* Sturm, is distinguished from the others by it its geographical distribution.

subgenus *Eudichirus* Jeannel

Eudichirus Jeannel, 1946: 158. Type Species: *Anisodactylus ochropus* Dejean, by original designation.

Rasnodactylus Basilewsky, 1946c: 171. Type Species: *Rasnodactylus jeanneli* Basilewsky, by original designation.

Basilewsky (1950) provided a key to the 3 species of this Ethiopian genus.

Phanagnathus Basilewsky

Phanagnathus Basilewsky, 1950: 35. Type Species: *Anisodactylus overlaeti* Burgeon, by original designation and monotypy.

Basilewsky (1950) provided keys for identification of this monobasic Ethiopian genus.

Pseudognathaphanus Schauberger

Pseudognathaphanus Schauberger, 1932b: 57. Type Species: *Harpalus punctilabris* W. S. MacLeay, by original designation.
Protognathus Basilewsky, 1950: 14, 36. Type Species: *Anisodactylus zabroides* Alluaud, by original designation.

This genus contains 2 species on Madagascar and 6 in the Oriental Region. Basilewsky (1950) provided keys to the 2 Madagascar species, and Jedlička (1957), to the Oriental species.

Chydaeus Chaudoir

Chydaeus Chaudoir, 1854: 343. Type Species: *Chydaeus obscurus* Chaudoir, by monotypy.
Acrogeniodon Tschitschérine, 1897b: 65. Type Species: *Acrogeniodon bedeli* Tschitschérine, by monotypy.
Hayekius Habu, 1955:35. Type Species: *Ophonus constrictus* Bates, by monotypy.

This genus contains 20 species concentrated in southern China, northern India, Tibet, and Sikkim, with some found as far toward Australia as New Guinea. Schauberger (1934b) provided a key to species then known and Habu (1973), to Japanese species. Additional species have been described since Schauberger's study; a revision of all species is needed.

Harpalomimetes Schauberger

Harpalomimetes Schauberger, 1933a: 133. Type Species: *Anisodactylus sjostedti* Andrewes, by original designation.

This genus contains 2 species: *H. sjostedti* from Sumatra and the Philippines; and *H. andrewesi* Schauberger from Indochina and Japan. Both Tanaka (1958) and Habu (1973) have redescribed the latter species.

Rhysopus Andrewes

Rhysopus Andrewes, 1929: 358. Type Species: *Rhysopus klynstrai* Andrewes, by monotypy.

The single species lives in Java, Sumatra, and the Tonkin area of Indochina.

Xestonotus LeConte

Xestonotus LeConte, 1853: 382, 383. Type Species: *Selenophorus lugubris* Dejean, by monotypy.

The single species lives in southeastern Canada and the eastern United States.

Anisodactylus Dejean

Anisodactylus Dejean, 1829a: 4, 132. Type Species: *Carabus binotatus* Fabricius, designated by Westwood, 1838: 4.

This is the largest genus in the subtribe, contains 10 subgenera and 54 species, and occurs in North America, Europe, Asia, and northern Africa.

subgenus *Anisodactylus* Dejean

Anisodactylus Dejean, 1829a: 4, 132. Type Species: *Carabus binotatus* Fabricius, designated by Westwood, 1838: 4.

Cephalogyna Casey, 1918: 414. Type Species: *Anisodactylus lodingi* Schaeffer, by monotypy.

This subgenus contains 25 species, is the most widespread subgenus of *Anisodactylus*, and occurs in all areas listed above for the genus. The following regional studies aid in species identification: Habu (1973) for Japan; Jeannel (1942) for France; Lindroth (1961, 1968, 1974) for Sweden, North America and Britain respectively; Puel (1931) for the Palaearctic Region; and Habu (1973) and Tanaka (1958) for Japan and adjacent parts of Korea and China. Only two species, *A. karennius* Bates, and *A. pueli* Schauberger are not treated in one of these regional studies. Noonan (1973) provided information on identification of the former species. A key to all species would be useful.

subgenus *Pseudanisodactylus* Noonan

Pseudanisodactylus Noonan, 1973: 284, 351. Type Species: *Anisodactylus punctatipennis* Morawitz, by original designation.

Habu (1973) and Tanaka (1958) provided keys to the 2 species of this Palaearctic subgenus.

subgenus *Pseudhexatrichus* Noonan

Pseudhexatrichus Noonan, 1973: 282, 352. Type Species: *Anisodactylus dejeani* Buquet, by original designation.

See Puel (1931) for a key to the 2 species of this Palaearctic subgenus.

subgenus *Hexatrichus* Tschitschérine

Hexatrichus Tschitschérine, 1898a: 138. Type Species: *Harpalus poeciloides* Stephens, designated by Jeannel, 1942: 602.

Jeannel (1942) provided a key to 2 of the 3 species of this Palaearctic subgenus; Jedlička (1942) described the third species, *A. mandschuricus.*

subgenus *Pseudodichirus* Lutshnik

Pseudodichirus Lutshnik, 1921: 3. Type Species: *Anisodactylus intermedius* Dejean, by monotypy.

This subgenus contains only the type species, which occurs around the Mediterranean basin.

subgenus *Gynandrotarsus* LaFerté-Sénectère

Gynandrotarsus LaFerté-Sénectère, 1841: 202. Type Species: *Gynandrotarsus harpaloides* LaFerté-Sénectère, by monotypy.

Triplectrus LeConte, 1847: 381. Type Species: *Harpalus rusticus* Say, designated by Lindroth, 1968: 843.

Noonan (1973) revised the 10 species of this Nearctic subgenus.

subgenus *Anadaptus* Casey

Anadaptus Casey, 1914: 171, 203. Type Species: *Anisodactylus discoideus* Dejean, designated by Lindroth, 1968: 838.

This subgenus contains 8 named species. Lindroth (1968) provided a key to the 7 species found in Canada and the United States. The eighth species, *Anisodactylus rotundangulus* Bates, occurs in central Mexico. The species need additional study.

subgenus *Spongopus* LeConte

Spongopus LeConte, 1847: 377. Type Species: *Spongopus verticalis* LeConte, by monotypy.

This monobasic subgenus occurs in southeastern Canada and eastern United States.

subgenus *Aplocentrus* LeConte

Aplocentrus LeConte, 1847: 385. Type Species: *Harpalus caenus* Say, designated by Lindroth, 1968: 857.

Haplocentrus LeConte, 1863: 12. (Typographical error).

Lindroth (1968) provided a key to the 2 species of this Nearctic subgenus.

subgenus *Pseudaplocentrus* Noonan

Pseudaplocentrus Noonan, 1973: 282, 377. Type Species: *Harpalus laetus* Dejean, by original designation and monotypy.

This monobasic subgenus occurs in eastern United States.

Geopinus LeConte

Geopinus LeConte, 1847: 371. Type Species: *Daptus incrassatus* Dejean, by monotypy.

This monobasic genus occurs in southern Canada and the eastern half of United States.

Amphasia Newman

Amphasia Newman, 1838: 388. Type Species: *Amphasia fulvicollis* Newman (= *A. interstitialis* Say), by monotypy.

Amphasius Hope, 1838: 89. Typographical error.

Lindroth (1968) provided a key for identification of each of the single species in the 2 subgenera of this Nearctic genus.

subgenus *Pseudamphasia* Casey

Pseudamphasia Casey, 1914: 171, 195. Type Species: *Harpalus sericeus* Harris, by original designation and monotypy.

subgenus *Amphasia* Newman

Amphasia Newman, 1838: 388. Type Species: *Amphasia fulvicollis* Newman (= *A. interstitialis* Say), by monotypy.

Gynandromorphus Dejean

Gynandromorphus Dejean, 1829a: 5, 186. Type Species: *Carabus etruscus* Quensel, by monotypy.
Morphogynandrus Carret, 1905: 122. Type Species: *Gynandromorphus peyroni* Carret, by monotypy.

This Palaearctic genus contains 2 species. Carret (1905) described *G. peyroni* from Syria and the Transcaspian area, and Jeannel (1942) redescribed *G. etruscus* found in southern and middle Europe.

Diachromus Erichson

Diachromus Erichson, 1837: 43. Type Species: *Carabus germanus* Linnaeus, by monotypy.

This monobasic genus occurs in England, middle and southern Europe, and the Mediterranean basin.

Dicheirus Mannerheim

Dicheirus Mannerheim, 1843: 211. Type Species: *Harpalus dilatatus* Dejean, designated by Chenu, 1851: 126.
Dichirus Agassiz, 1847: 122. (invalid emendation).

Noonan (1968) revised the 5 species of this Nearctic genus.

The Subtribe Stenolophina

Stenolophidae Kirby, 1837: 46.
Polpochilinae Bates, 1891b: 10. NEW SYNONYMY.
Acupalpini Tschitschérine, 1900b: 342, 351, 361. NEW SYNONYMY.
Cratocarini Casey, 1914: 48, 299. NEW SYNONYMY.
Agonoderi Csiki, 1932: 1188.
Bradycelli Csiki, 1932: 1222.
Pachytracheli Csiki, 1932: 1082. NEW SYNONYMY.
Dichirotrichi Burmeister, 1939: 186. NEW SYNONYMY.
Hippolaetina Basilewsky, 1951: 118, 258.
Anthracini Schuler, 1969: 113, 114. NEW SYNONYMY.

Diagnosis. – Mentum and submentum separated by complete transverse suture in most species. Mentum of most species with 1 seta on each side of median area; mental tooth present or absent. Submentum with 1 or 2 setae at each side. Ligula narrow; 2 distal ventral setae. Paraglossae glabrous. Penultimate articles of labial palpi each with 2 or 3 setae on anterior margin. Fore tarsi and in many specimens also mid tarsi of male with articles 1 to 4 or 2 to 4 laterally expanded and with ventral biseriate vestiture; fore and mid tarsi of male unmodified in species of *Batoscelis, Pachytrachelus, Nothodaptus.* Median lobe of male genitalia with dorsal membranous area long, extended to basal bulb in most forms; ostium dorsal in position in most species. Species generally small, less than 10 mm in length.

Distribution. – Species of this subtribe are most numerous in the Palaearctic, Nearctic, and Ethiopian Regions and much less abundant in the Oriental and Neotropical Regions. The Australian Region contains 2 small endemic genera; species of several other genera occur in the Australian Region, but these species are either primarily centered in the Oriental Region and extending only into the fringe of the Australian Region or are Australian-centered species presumably derived from Oriental stocks.

Discussion. – Jeannel (1942) divided Stenolophina (as here defined) into the tribes Stenolophini, Bradycellini, and Acupalpini. Basilewsky (1950, 1951) divided it into the tribes Stenolophini, Hippolaetini, and Pachytrachelini, and divided Stenolophini into the subtribes Stenolophina, Bradycellina, Acupalpina, and Hippolaetina. The subtribes of Jeannel (1942) and the first 3 subtribes of Basilewsky's Stenolophini were each centered around *Stenolophus, Bradycellus,* and *Acupalpus* respectively. The primary character defining the groups centered on these three genera was the arrangement of setigerous foveate punctures of the ninth elytral interval.

Lindroth (1968) observed the following. The position of these punctures within the genera and even among individuals of single species is more variable than thought and not stable enough to separate North American specimens into genera. The most useful of the "puncture characters", separation of the posterior group into two 4 + 4 groups separated by a pronounced gap, is constant in the genus *Stenolophus* and its closest Palaearctic relatives but is not stable for other North American forms since most members of the subgenus *Triliarthrus* (genus *Bradycellus*) show a definite tendency in the same direction. And the total number of the posterior group of punctures and the position of the last puncture of the anterior group, used by Jeannel (1942) in separating genera related to *Bradycellus* and *Acupalpus* respectively, are inconstant and of little value.

Jeannel (1942) and Basilewsky (1950, 1951) also emphasized the more ventral position of the left paramere as being restricted to *Acupalpus* and related genera. Lindroth (1968) agreed that this feature, as well as the rounded non-truncate tip of both parameres seemed to separate *Acupalpus* from *Stenolophus* but not from North American *Bradycellus*, in which intermediate forms of both features are found.

Basilewsky (1950, 1951) based the subtribe Hippolaetina (of his tribe Stenolophini) on the genus *Hippolaetis* whose sole species lacks clypeo-ocular prolongations on the frons of the head. Such structures vary considerably within the tribe Harpalini (even intraspecifically in some genera) and are not stable enough to warrant separate subtribal status for *Hippolaetis*.

Basilewsky (1950, 1951) ranked *Batoscelis* and *Pachytrachelus* in Pachytrachelini, a tribe separate from his Stenolophini. Justification for such ranking was that members of these genera have the fore tibiae enlarged distally and with teeth and also have the male fore and mid tarsi unmodified. Distal enlargement of the fore tibiae and acquisition of teeth has evolved independently, primarily as an adaptation for burrowing, in several harpaline groups (eg. *Geopinus* of subtribe Anisodactylina, *Euryderus* of subtribe Harpalina). Males of several taxa of the subtribe Harlapina have independently lost the normal lateral expansion and in some instances also the normal ventral vestiture of the fore and mid tarsi; and (Noonan, 1968) some males of *Dicheirus dilatatus angulatus* Casey of the subtribe Anisodactylina have ventral vestiture on the fore and mid tarsi while others do not. The characters cited by Basilewsky (1950, 1951) are not stable enough to warrant separate tribal or subtribal rank for *Batoscelis* and *Pachytrachelus.*

Van Emden (1953) placed *Polpochila, Pogonodaptus,* and *Paramecus* in Cratocarina, a subtribe separated from Stenolophina, by male fore tarsi without ventral vestiture and proximal articles of fore tarsi with a spine, tooth or stout setulae on the inner distal apices. Variation in tarsal vestiture has been discussed above. The spines, teeth, or stout setulae described by van

Emden (1953) vary considerably within the 3 genera he placed in Cratocarina. And the species of *Batoscelis* that I have examined have such structures while species of *Pachytrachelus* do or do not have them. The characters cited by van Emden (1953) are not stable enough to warrant separate subtribal status for *Polpochila, Pogonodaptus,* and *Paramecus*. Future study may demonstrate a close phylogenetic relationship of these 3 genera with *Batoscelis* and *Pachytrachelus.*

A worldwide reclassification and phylogenetic analysis is needed of the supra-specific taxa of Stenolophina. Since, there is no agreed phylogeny for these taxa, I have listed them in the following order: (1) those regarded by Jeannel (1942) and Basilewsky (1950, 1951) as related to *Stenolophus* together with others I believe may also be so related; (2) those regarded by Jeannel and Basilewsky as related to *Bradycellus* together with others I believe may also be so related; (3) those regarded by Jeannel and Basilewsky as related to *Acupalpus* together with others I believe are so related; (4) genus *Hippolaetis* of Basilewsky's subtribe Hippolaetina; (5) the two genera of Basilewsky's tribe Pachytrachelini; (6) the 3 genera of van Emden's subtribe Cratocarina; and (7) taxa whose relationships within Stenolophina are not clear.

Supra-specific taxa. –

Stenolophus Dejean

Stenolophus Dejean, 1821: 15. Type Species: *Carabus vaporariorum* Linnaeus *sensu* Fabricius (= *Carabus teutonus* Schrank), designated by Westwood, 1838: 5.

This large genus has species in all 6 faunal regions but is most diverse in the Nearctic, Palaearctic, and Ethiopian Regions. A worldwide revision is needed.

subgenus *Stenolophus* Dejean

Stenolophus Dejean, 1821: 15. Type Species: *Carabus vaporariorum* Linnaeus *sensu* Fabricius (= *Carabus teutonus* Schrank), designated by Westwood, 1838: 5.

This subgenus is concentrated in the Nearctic and Palaearctic Regions with 25 species in the former and 21 in the latter. The number of recognized species in the Nearctic Region will probably decrease with revision of Casey's species. The subgenus has 10 Oriental species, 2 Australian, and 7 Neotropical ones. Two species, *S. gonidius* Bates and *S. volucer* Andrewes range from the Oriental Region to New Guinea. The distribution of one species, *S. humeralis* Motschulsky, is not recorded.

The following regional studies aid in identification: Antoine (1959) for Morocco; Bedel (1895-1900) for northern Africa; Darlington (1968) for New Guinea; Habu (1973) for Japan; Hansen (1968) for Denmark; Jeannel (1942) for France; Lindroth (1961, 1968, 1974) for Sweden, northern North America, and Britain respectively; Porta (1923) for Italy; Reitter (1900, 1908) for Europe and Germany respectively. The subgenus needs revision.

conjunctus species group

Lindroth (1968) placed *S. conjunctus* Say and 3 other Nearctic species in this group which he stated to be "isolated from *Stenolophus s. str.* at least as much as . . . subgenus *Agonoderus* . . . ". Lindroth (1968) provided a key to the 4 included species.

subgenus *Agonoderus* Dejean

Agonoderus Dejean, 1829a: 4, 49. Type Species: *Carabus lineola* Fabricius, designated by Brullé, 1835: 15.

Lindroth (1968) provided a key to the 3 Canadian and to 1 United States species and declared that a M. S. thesis by J. M. Heading stated the group includes only 3 additional species in the United States.

subgenus *Agonoleptus* Casey

Agonoleptus Casey, 1914: 222, 284. Type Species: *Agonoleptus parviceps* Casey, by monotypy.

Casey (1914) proposed *Agonoleptus* as a distinct genus based on several female *S. parviceps* from Colorado in the United States, but his comments suggest that *Agonoleptus* should be included in the genus *Stenolophus.* Further study will probably indicate that *S. parviceps* belongs in the nominate subgenus.

subgenus *Astenolophus* Habu

Astenolophus Habu, 1973: 342, 365. Type Species: *Stenolophus fulvicornis* Bates, by original designation.

Habu (1973) provided a key to the 4 species of this Japanese subgenus.

subgenus *Egadroma* Motschulsky

Egadroma Motschulsky, 1855: 43. Type Species: *Carabus smaragdulus* Fabricius, by monotypy.

This subgenus is concentrated in the Ethiopian Region, with 62 species there; it also contains 5 Palaearctic, 5 Oriental and 4 Australian species. *Egadroma quinquepustulatus* Wiedemann and *E. smaragdulus* Fabricius extend from the Oriental Region to Australia, China and Japan while *E. vestigialis* Erichson ranges from Australia to Java and Sumatra and is also on Tahiti.

Basilewsky (1951) provided a key to the 60 Ethiopian species described by 1951. Jeannel (1942) and Antoine (1959) redescribed the widespread Palaearctic *E. marginatus* Dejean. Darlington (1968) keyed out New Guinea species, and Habu (1973) did the same for Japanese species. A worldwide revision is needed; Oriental species especially need study.

Angionychus Klug

Angionychus Klug, 1853: 248. Type Species. *Angionychus lividus* Klug, 1853, by monotypy.

Thaumastonyx Alluaud, 1917b: 245. Type Species: *Thaumastonyx insidiosus* Alluaud, (= *A. lividus*), by monotypy.

Basilewsky (1951) provided keys for identification of this monobasic Ethiopian genus.

Loxoncus Schmidt-Goebel

Loxoncus Schmidt-Goebel, 1846: plate 3, figure 9, on back cover. Type Species: *Loxoncus elevatus* Schmidt-Goebel, by monotypy.

Anoplogenius Chaudoir, 1852: 88. Type Species: *Stenolophus alacer* Dejean, designated by Lacordaire, 1854: 304. NEW SYNONYMY.

Megrammus Motschulsky, 1857: 26. Type Species: *Megrammus circumcinctus* Motschulsky (= *A. cyanescens* Hope), by monotypy.

Lepithrix Nietner, 1857: 151. Type Species: *Lepithrix foliolosa* Nietner (= *A. discophorus* Chaudoir), by monotypy.

Since Schmidt-Goebel (1846) illustrated *Loxoncus elevatus,* Habu (1973: 395) was incorrect to declare the name *Loxoncus* a *nomen nudum. Loxoncus* is a valid name with priority over *Anoplogenius.* (Except for Reitter (1900), the authors mentioned below listed species of *Loxoncus* under the genus-group name of *Anoplogenius.*)

The genus *Loxoncus* contains 10 Ethiopian species, 3 Palaearctic, 9 Oriental, and one, *L. marginatus* W. J. MacLeay, distributed from Sumatra to northern Australia. Basilewsky (1951) noted that the Ethiopian species live along seashores and in marshes and are often very abundant.

Basilewsky (1951) provided a key to the 9 Ethiopian species described by 1951 and later (1968b) described a tenth. Habu (1973) redescribed the single species found in Japan. In his key Reitter (1900) treated the widespread Palaearctic *L. procerus* Schaum as a member of the genus *Acupalpus.* Schauberger (1938) provided a key to the Indo-Oriental species known to him. The genus needs revision on a worldwide basis.

Egadyla Alluaud

Egadyla Alluaud, 1916: 63, 72. Type Species: *Egadyla antelmei* Alluaud, by monotypy.

Basilewsky (1951) provided keys for identification of this monobasic Ethiopian genus.

Stenolophidius Jeannel

Stenolophodius Jeannel, 1948: 687, 708. Type Species: *Stenolophus terminalis* Chaudoir, by original designation.

Basilewsky (1951) provided a key to the 9 species then known of this Ethiopian genus and later (1967b) described a tenth.

Bradycellus Erichson

Bradycellus Erichson, 1837: 64. Type Species: *Carabus collaris* Paykull, proposed by Andrewes, 1935: 20. See discussion under nominate subgenus.

This genus contains 10 subgenera and 3 species groups.

subgenus *Liocellus* Motschulsky

Liocellus Motschulsky, 1864: 207. Type Species: *Acupalpus nitidus* Dejean, by original designation.
Glycerius Casey, 1884: 79. Type Species: *Acupalpus nitidus* Dejean, by monotypy.

This subgenus contains 9 Nearctic species; Lindroth (1968) provided a key to 2 of these; Fall (1905) and Casey (1914) may be of assistance in identifying other forms. A revision is needed.

subgenus *Bradycellus* Erichson

Bradycellus Erichson, 1837: 64. Type Species: *Carabus collaris* Paykull, proposed as type species by Andrewes, 1935: 20. See discussion below.
Tetraplatus Tschitschérine, 1897b: 62, 63. Type Species: *Acupalpus similis* Dejean (= *B. circumcinctus* Sahlberg), by monotypy.

Westwood (1838: 6) validly designated *Harpalus placidus* Gyllenhall as the type species of *Bradycellus* Erichson. Andrewes (1935: 20) pointed out that this species is now a member of *Trichocellus* Ganglbauer and proposed that *Carabus collaris* Paykull be accepted as the type species of *Bradycellus* to prevent nomenclatural confusion. Subsequent workers such as Jeannel (1942: 706) and Lindroth (1968: 879) have accepted Andrewes' proposal. I also accept his proposal, but a ruling is needed from the International Commission on Zoological Nomenclature.

This subgenus contains 1 Nearctic, 14 Neotropical and 10 Palaearctic species. *Bradycellus harpalinus* Audinet-Serville, a Palaearctic species, has been introduced into the Vancouver area of British Columbia, Canada.

The following regional studies aid in identification: Antoine (1959) for Morocco; Bedel (1895-1900) for northern Africa; Fagel (1936) for Belgium; Hansen (1968) for Denmark; Jeannel (1942) for France; Lindroth (1961, 1968, 1974) for Sweden, North America, and Britain respectively; Porta (1923) for Italy; Reitter (1900, 1908) for Europe and Germany respectively; and Schweiger (1969) for Palaearctic species related to *B. harpalinus*. A revision which treats all species is needed.

subgenus *Catharellus* Casey

Catharellus Casey, 1914: 220, 242. Type Species: *Geobaenus cordicollus* LeConte (= *B. lecontei* Csiki), by original designation and monotypy.

This subgenus has 1 Nearctic species, *B. lecontei* Csiki.

subgenus *Stenocellus* Casey

Stenocellus Casey, 1914: 221, 243. Type Species: *Trechus rupestris* Say, designated by Lindroth, 1968: 885.

This subgenus includes 3 Neotropical and 31 Nearctic species. A revision is needed; study of the 21 Casey names will probably result in many new synonyms.

nigriceps group

Lindroth (1968) regarded this group as warranting subgeneric rank, placed 3 Nearctic species in it, and provided a key to them.

tantillus group

Lindroth (1968) regarded this group as warranting subgeneric rank, placed 8 Nearctic species in it, and provided a key to them.

nigrinus species group

Liocellus Tschitschérine, 1901: 247. Type Species: *Harpalus nigrinus* Dejean, by original designation. (*Liocellus* Tschitschérine, 1901 is a junior homonym of *Liocellus* Motschulsky, 1864).

See Lindroth (1968) for a key to the 2 species of this Nearctic group.

subgenus *Tachycellus* Morawitz

Tachycellus Morawitz, 1862: 235, 261. Type Species: *Bradycellus curtulus* Motschulsky, by monotypy.

Lindroth (1968) concluded that this subgenus contains 2 Palaearctic species, *B. curtulus* Motschulsky, and *B. grandiceps* Bates. Habu (1973) also included *B. subditus* Lewis and *B. anchomenoides* Bates in the subgenus.

subgenus *Triliarthrus* Casey

Triliarthrus Casey, 1914: 220, 238. Type Species: *Stenolophus badipennis* Haldeman, designated by Lindroth, 1968: 898.

Lindroth (1968) provided a key to the 6 species of this Nearctic subgenus.

subgenus *Desbordesius* Maindron

Desbordesius Maindron, 1906: 252. Replacement name for *Pselaphoxys* Tschitschérine. Type Species: *Bradycellus laeticolor* Bates, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus name must have the same type species as the original one.

Pselaphoxys Tschitschérine, 1897b: 60. Type Species: *Bradycellus laeticolor* Bates, by monotypy. (*Pselaphoxys* Tschitschérine, 1897 is a junior homonym of *Pselaphoxys,* Raffray, 1890).

This subgenus contains 1 Japanese species (redescribed by Habu, 1973) and 2 Eurasian ones. A revision is needed.

subgenus *Nipponbradycellus* Habu

Nipponbradycellus Habu, 1973: 305, 318. Type Species: *Bradycellus lewisi* Schauberger, by original designation and monotypy.

Habu (1973) provided keys for identification of this monobasic subgenus found in northern Asia and Japan.

subgenus *Bradycelloides* Habu

Bradycelloides Habu, 1973: 305, 322. Type Species: *Bradycellus frimbriatus* Bates, by original designation and monotypy.

Habu (1973) provided keys for identification of this monobasic subgenus found in northern Asia and Japan.

subgenus *Psychristus* Andrewes

Psychristus Andrewes, 1930: 21. Type Species: *Psychristus liparops* Andrewes, by original designation.

Psychistrus Csiki, 1932: 1232. (typographical error or invalid emendation).

Andrewes (1930) described 2 species from Sikkim and Tibet.

Amerinus Casey

Amerinus Casey, 1884: 7. Type Species: *Bradycellus linearis* LeConte, by monotypy.

This Nearctic genus contains 2 species described by Casey in addition to the type species.

Goniocellus Casey

Goniocellus Casey, 1914: 221, 224. Type Species: *Goniocellus bifossifrons* Casey, by original designation.

Casey (1914) described 2 species from Panama, *G. bifossifrons* and *G. isthmianus.*

Dicheirotrichus Jacquelin du Val

Dicheirotrichus Jacquelin du Val, 1857: 35, 65. Type Species: *Harpalus obsoletus* Dejean, by original designation and monotypy.
Dichirotrichus Schaum, 1860: 558, 561. (invalid emendation).
Pelagophilus Tschitschérine, 1901: 217, 249. Type Species: *Dichirotrichus punicus* Bedel, by monotypy.

This genus contains 8 Palaearctic species. The following regional studies aid in identification: Antoine (1959) for Morocco; Gridelli (1944) for Italy and adjacent Europe; Haberman (1968) for Estonia; Habu (1973) for Japan; Jeannel (1942) for France; Lindroth (1961, 1974) for Sweden and Britain respectively; Porta (1923) for Italy; Reitter (1900, 1908) for most of the Palaearctic Region and all of Germany respectively. A revision that treats all species would be useful.

Trichocellus Ganglbauer

Trichocellus Ganglbauer, 1892: 365-367. Type Species: *Harpalus placidus* Gyllenhal, designated by Andrewes, 1934: 201.

subgenus *Oreoxenus* Tschitschérine

Oreoxenus Tschitschérine, 1899a: 445, 447, 471. Type Species: *Bradycellus mannerheimi* Sahlberg, (first species listed), here designated.

The 3 species of this Palaearctic subgenus need revision.

subgenus *Cardiostenus* Tschitschérine

Cardiostenus Tschitschérine, 1900a: 56. Type Species: *Trichocellus (Cardiostenus) parvicollis* Tschitschérine, by original designation and monotypy.

This subgenus contains 3 Eurasian species; a revision is needed.

subgenus *Trichocellus* Ganglbauer

Trichocellus Ganglbauer, 1892: 365-367. Type Species: *Harpalus placidus* Gyllenhal, designated by Andrewes, 1934: 201.

This subgenus contains 27 Palaearctic species, 2 circumpolar Holarctic ones, and 1 species present in Tibet of the Palaearctic and India of the Oriental.

The following regional studies aid in identification: Habu (1973) for Japan; Hansen (1968) for Denmark; Jeannel (1942) for France; Lindroth (1961, 1968, 1974) for Sweden, North

America and Britain respectively; Porta (1923) for Italy; Reitter (1900, 1908) for Europe and Germany respectively. A revision is needed.

Tropicoritus Alluaud

Tropicoritus Alluaud, 1917a: 95. Type Species: *Tropicoritus ruwenzorii* Alluaud, by monotypy.

Basilewsky (1951) provided keys for identification of this monobasic African genus, which is represented only by a male from Uganda.

Kenyacus Alluaud

Kenyacus Alluaud, 1917a: 96. Type Species: *Kenyacus hypsibius* Alluaud, designated by Basilewsky, 1951: 223.

Basilewsky provided a key to the 9 species of this Ethiopian genus and stated that they are distributed on East African mountains from Kivu of the Zaire Republic, to southern Ethiopia, at an altitude of 2,350 to 4,000 meters.

Acupalpus Latreille

Acupalpus Latreille, 1829: 391. Type Species: *Carabus meridianus* Linnaeus, designated by Blanchard, 1842: plate 21.

This genus contains 8 subgenera and has species in all 6 faunal regions, with the greatest numbers being in the Palaearctic, Ethiopian, and Nearctic regions. Most taxa need study; a worldwide revision would be useful.

subgenus *Philodes* LeConte

Philodes LeConte, 1861: 33. Type Species: *Philodes alternans* LeConte, designated by Lindroth, 1968: 927.

Goniolophus Casey, 1914: 221, 262. Type Species: *Goniolophus lucens* Casey, by original designation.

Lindroth (1968) provided a key to 2 of the species of this Nearctic subgenus; Casey (1914) is of assistance in identifying the other 3 forms. The species need revision.

subgenus *Hemiaulax* Bates

Hemiaulax Bates, 1892: 347. Type Species: *Anoplogenius (Hemiaulax) dentipennis* Bates, by monotypy.

Idiomelas Tschitschérine, 1900b: 364. Type Species: *Stenolophus morio* Ménétriés, by original designation and monotypy.

This subgenus includes the type species from Burma and *A. morio* from the northeastern Mediterranean basin. The species need study.

subgenus *Acupalpus* Latreille

Acupalpus Latreille, 1829: 391. Type Species: *Carabus meridianus* Linnaeus, designated by Blanchard, 1942: plate 21.

Manicellus Motschulsky, 1964: 207. Type Species: *Stenolophus elegans* Dejean, designated by

Jeannel, 1942: 712.

This subgenus has 30 Palaearctic, 6 Nearctic, 15 Neotropic, 12 Oriental, 8 Australian, and 23 Ethiopian species. In addition, *A. brunnicolor* Sloane occurs from western Australia to Borneo while *A. meridianus* Linnaeus, a western Palaearctic species, has been introduced into the Pacific Northwest of North America. The following regional studies aid in identification: Antoine (1959) for Morocco; Basilewsky (1951) for the 22 Ethiopian species described by 1951 and (1956b) for description of *A. ruandanus* Basilewsky; Bedel (1895-1900) for northern Africa; Burakowski (1957) for central Europe; Habu (1973) for Japan; Hansen (1968) for Denmark; Jeannel (1942) for France; Lindroth (1961, 1968, 1974) for Sweden, northern North America, and Britain respectively; Müller (1933) for Europe; Porta (1923) for Italy; Reitter (1900, 1908) for Europe and Germany respectively. A worldwide revision is needed.

subgenus *Ancylostria* Schauberger

Ancylostria Schauberger, 1930: 217, 218. Type Species: *Acupalpus interstitialis* Reitter, designated by Antoine, 1959: 447.

This subgenus contains 5 Palaearctic and 2 Oriental species. Reitter (1900) may be used for identification of the 5 Palaearctic species which he treated as members of the subgenus *Acupalpus*. Reitter's *A. piceus* Rottenberg (p. 136) was replaced by Csiki (1932) with *A. mediterraneus* (*Acupalpus piceus* Rottenberg is a junior homonym of *A. piceus* Guérin-Méneville.) Jedlička (1964) described the 2 Oriental species. A key to all 7 species would be useful.

subgenus *Anthracus* Motschulsky

Anthracus Motschulsky, 1850: Key VII and p. 21. Type Species: *Carabus consputus* Duftschmid, by monotypy.

Balius Schiødte, 1861: 154, 184. Type Species: *Carabus consputus* Duftschmidt, by monotypy. (*Balius* Schiødte, 1861 is a junior homonym of *Balius* Gistl, 1848).

This subgenus contains 15 Palaearctic species, 3 Oriental, 8 Ethiopian, and 2 Nearctic. The following regional studies aid in identification: Antoine (1959) for Morocco; Basilewsky (1951) for 6 of the Ethiopian species and (1961, and 1968a) for descriptions of a total of 2 additional Ethiopian species; Casey (1914) for a redescription of *A. tener* LeConte, from California in North America; Habu (1973) for Japan; Hansen (1968) for Denmark; Hatch (1953) for description and key to *A. punctulatus* Hatch of northwestern North America; Jeannel (1942) for France; Lindroth (1961, 1974) for Sweden and Britain respectively; Normand (1941) for northern Africa; Reitter (1900, 1908) for most Palaearctic species then known and for species of Germany respectively.

subgenus *Tachistodes* Casey

Tachistodes Casey, 1914: 222, 286. Type Species: *Acupalpus pauperculus* Dejean, designated by Lindroth, 1968: 934.

Lindroth (1968) provided a key to the 4 species of this Nearctic subgenus.

subgenus *Pseudanthracus* Habu

Pseudanthracus Habu, 1973: 326. Type Species: *Acupalpus sinuellus* Bates, by original designation and monotypy.

Habu (1973) provided keys for identification of this monobasic Oriental subgenus.

subgenus *Setacupalpus* Habu

Setacupalpus Habu, 1973: 326, 329. Type Species: *Acupalpus subosanus* Habu, by original designation and monotypy.

Habu (1973) provided keys for identification of this monobasic Japanese subgenus.

subgenus *Palcuapus* Habu

Palcuapus Habu, 1973: 326, 332. Type Species: *Acupalpus inornatus* Bates, by original designation and monotypy.

Habu (1973) provided keys for identification of this monobasic subgenus found in China and Japan.

Cyptomicrus Vinson

Cyptomicrus Vinson, 1939: 133. Type Species: *Cyptomicrus pollicus* Vinson, by original designation and monotypy.

Basilewsky (1951) provided keys for identification of this monobasic genus found on Mauritius Island.

Gugheorites Basilewsky

Gugheorites Basilewsky, 1951: 232, 256. Type Species: *Gugheorites scotti* Basilewsky, by original designation and monotypy.

Basilewsky (1951) described this genus and its single species (known from highlands of southern Ethiopia) and stated that the original generic and specific descriptions were then in press. They were not published until 1953, and Basilewsky then stated (1953b) that the ones in 1951 had priority.

Hippolaetis Castelnau

Hippolaetis Laporte, 1835: 152. Type Species: *Hippolaetis rufa* Laporte, by monotypy.
Hydroporomorpha Westwood, 1853, 409. Type Species: *Hydroporomorpha lutea* Westwood (= *Hippolaetis rufa* Laporte), by monotypy. (*Hydroporomorpha* Westwood, 1853 is a junior homonym of *Hydroporomorpha* Babington, 1842.)

Basilewsky (1951) provided keys for identification of this monobasic Ethiopian genus.

Batoscelis Dejean

Batoscelis Dejean 1836: 46. Type Species: *Agonoderus oblongus* Dejean (the first validly described species listed), here designated.
Systenognathus Putzeys, 1863: 18. Type Species: *Systenognathus porosus* Putzeys, by monotypy.
Leptocellus Müller, 1942: 69. Type Species: *Acupalpus (Leptocellus) spinipes* Müller, by monotypy.

Basilewsky (1951: 261) and Csiki (1932: 1082) attributed authorship of *Batoscelis* to Lacordaire (1954: 261). Dejean (1837: 46) listed the genus and placed 2 previously described species, *Agonoderus oblongus* Dejean and *Agonoderus discipennis* Dejean, in it. Lacordaire (1954: 261) merely redescribed the *Batoscelis* of Dejean and did not intend proposing a new genus. Dejean is thus the correct author.

This genus contains 8 Ethiopian species, 1 Oriental, and *B. oblongus* Dejean which occurs from northern Australia to India. Basilewsky (1951) provided keys to the Ethiopian species. A key to all 10 species would be useful.

Pachytrachelus Chaudoir

Pachytrachelus Chaudoir, 1852: 85. Type Species: *Pachytrachelus cribriceps* Chaudoir, by monotypy.

This genus contains the type species which occurs in India and *P. hellmichi* Jedlička from Nepal. A revision is needed.

Polpochila Solier

Polpochila Solier, 1849: 217. Type Species: *Polpochila parellela* Solier (= *P. chilensis* Chaudoir), by original designation and monotypy.

Cratocara LeConte is a replacement name for *Melanotus* Dejean and according to Article 67(i) of the International Code of Zoological Nomenclature must have the same type species, *Melanotus flavipes* Dejean. Nègre's (1963: 214) designation of *Melanotus erro* LeConte as type species is invalid, and the name *Cratocara* becomes a junior synonym of *Polpochila sensu stricto. Phymatocephalus* Schaum with its type species of *Phymatocephalus riehi* Schaum (= *Polpochila erro* LeConte) is the proper subgeneric name for the 3 species Nègre (1963) included in *Cratocara sensu* Nègre.

Nègre (1963) provided keys to the species of the 2 included subgenera (with the subgenus *Phymatocephalus* being termed "*Cratocara*") and later (1967) described 2 additional new species of the nominate subgenus.

subgenus *Phymatocephalus* Schaum

Phymatocephalus Schaum, 1864: 125. Type Species: *Phymatocephalus riehi* Schaum (= *Polpochila erro* LeConte), by monotypy.

This subgenus contains 1 Neotropical species and 2 which occur in the Neotropical and southern Nearctic regions.

subgenus *Polpochila* Solier

Polpochila Solier, 1849: 217. Type Species: *Polpochila parallela* Solier (= *P. chilensis* Chaudoir), by monotypy.

Melanotus Dejean, 1831: 692, 698. Type Species: *Melanotus flavipes* Dejean, designated by Hope, 1838: 111. (*Melanotus* Dejean, 1831 is a junior homonym of *Melanotus* Erichson, 1829.)

Cratocara LeConte, 1863: 11. Replacement name for *Melanotus* Dejean. Type Species: *Melanotus flavipes* Dejean since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus name must have the same type species as the original one. NEW SYNONYMY.

This subgenus contains 18 Neotropical species.

Pogonodaptus Horn

Pogonodaptus Horn, 1881: 177, 178. Type Species: *Pogonodaptus piceus* Horn (= *P. mexicanus* Bates), by monotypy.

This genus contains *P. mexicanus* Bates which occurs from the United States to Central America and *P. rostratus* Darlington from Haiti.

Paramecus Dejean

Paramecus Dejean, 1829a: 4, 43. Type Species: *Paramecus cylindricus* Dejean, designated by Hope, 1838: 88.
Cylloscelis Curtis, 1839: 187. Type Species: *Cylloscelis ellipticus* Curtis, by monotypy.

This genus contains 4 species from southern South America. A revision is needed.

Pholeodytes Britton

Pholeodytes Britton, 1961: 665. Type Species: *Pholeodytes townsendi* Britton, 1961, by monotypy.

The original descriptions of *P. townsendi* (Britton, 1961) and *P. cereberus* (Britton, 1963) may be used to identify the 2 species of this endemic New Zealand genus.

Bradycidus Casey

Bradycidus Casey, 1914: 220, 222. Type Species: *Bradycidus veneris* Casey, by monotypy.

Basilewsky (1951) listed the single species, from Cape Hope, Africa, as *incertae sedis.*

Agonidus Casey

Agonidus Casey, 1914: 221, 226. Type Species: *Agonidus cephalotes* Casey, by original designation and monotypy.

Basilewsky (1951) listed the single species, from Wellington, Cape Town, Africa, as *incertae sedis.*

Lioholus Tschitschérine

Lioholus Tschitschérine, 1897b: 64. Type Species: *Lioholus metallescens* Tschitschérine, by monotypy.

The single species is known from western China.

Euthenarus Bates

Euthenarus Bates, 1874: 272. Type Species: *Euthenarus brevicollis* Bates (first species listed), here designated.

This genus contains 4 New Zealand, 3 Australian, 1 Tasmanian, and 1 species found on both Australia and Tasmania. A revision is needed.

Egaploa Alluaud

Egaploa Alluaud, 1916: 64, 73. Type Species: *Stenolophus crenulatus* Dejean, by monotypy.

Basilewsky (1950) provided keys for identification of this monobasic genus, recorded from India, Ethiopian portion of Africa, and islands such as Madagascar, Nossi-be, Mauritius, and the Seychelles.

Paregaploa Müller

Paregaploa Müller, 1947: 81. Type Species: *Paregaploa conviva* Müller, by monotypy.

Basilewsky (1951) provided keys for identification of this monobasic Ethiopian genus.

Cratosoma Jeannel

Cratosoma Jeannel, 1948: 687, 707. Type Species: *Cratognathus pictus* Fairmaire, by original designation and monotypy.

Basilewsky (1951) provided keys for identification of this genus which is based on a single male from Madagascar.

Rhabidius Basilewsky

Rhabidius Basilewsky, 1948b: 215. Type Species: *Rhabidius jeanneli* Basilewsky, by original designation.

Basilewsky, (1951) provided a key to the 2 species of this Ethiopian genus.

The Subtribe Harpalina

Harpalii Bonelli, 1810: Tabula Synoptica.
Ditomici Bonelli, 1810: Tabula Synoptica. NEW SYNONYMY.
Acinopidae Laporte, 1834: 67. NEW SYNONYMY.
Ophonidae Laporte, 1834: 68.
Stenomorphidae Laporte, 1834: 71.
Daptini LeConte, 1847: 37. NEW SYNONYMY.
Amblystomini Fauvel, 1889: 17.
Trichopselaphini Tschitschérine, 1900b: 343, 345.
Selenophorini Casey, 1914: 48, 134.
Pachycarina Stichel, 1923: 49, 81. NEW SYNONYMY.
Barysomi Csiki, 1932: 1192.
Bradybaeni Csiki, 1932: 1187. NEW SYNONYMY.
Dioctini Csiki, 1932: 1023. NEW SYNONYMY.
Diorychi Csiki, 1932: 1193. NEW SYNONYMY.
Euryderi Csiki, 1932: 1081.
Heteracanthi Csiki, 1932: 1085. NEW SYNONYMY.

Machozeti Csiki, 1932: 1023. NEW SYNONYMY.
Trichotichini Jeannel, 1942: 615, 624.
Bleusei Antoine, 1959: 386, 427. NEW SYNONYMY.
Eriotomi Antoine, 1959: 331, 354. NEW SYNONYMY.
Granigeri Antoine, 1959: 331. NEW SYNONYMY.
Granigerini Antoine, 1959: 326, 357. (typographical error for Granigeri).
Cratacanthi Lindroth, 1968: 742. NEW SYNONYMY.

Diagnosis. – Mentum and submentum separated by complete transverse suture. Penultimate articles of labial palpi each with 3 or more setae on anterior margin. Fore tarsi of males of most species with some articles laterally expanded and with ventral biseriate vestiture; fore tarsi of males of some species of *Carterus* with some articles laterally expanded and with irregular biseriate vestiture; fore tarsi of males of some species with all articles unmodified. Mid tarsi of males unmodified or with some articles modified as in fore tarsi.

Distribution. – Taxa are concentrated in the Palaearctic, Nearctic, and to a lesser degree the Neotropic and Ethiopian Regions. Taxa are less numerous in the Oriental Region. The taxa of the Australian Region consist of only the approximately 12 species of the Australian genus *Phorticosomus,* approximately 13 species of the widespread genus *Platymetopus,* the monobasic New Guinea genus *Lyter,* and 4 species of the Indo-Australian genus *Harpaloxenus.*

Discussion. – Harpalina is the largest subtribe, with: a total of 137 genera, subgenera, and species groups proposed by Lindroth (1968) and here tentatively ranked as equivalent to subgenera until their proper rank is known; 83 genera; and approximately 1200 species. The composition of many of the included supra-generic groups needs further study.

The Harpali and Selenophori groups may both be polyphyletic, each with convergences in hind tarsal length, dorsal setigerous punctuation of the elytra, and position of the ostium of the median lobe of the male genitalia. Habu (1968) concluded that hind tarsal length is not stable enough to warrant separation of the Harpali and Selenophori groups. Further study is needed.

The Bradybaeni group is primarily defined by the presence of a fringe of setae along the posterior borders of the abdominal sterna. Such setae are present also in some Harpali such as species of *Eurydera* and *Piosoma.* And many specimens of species of *Bradybaenus* have an irregular row of very small dorsal setigerous punctures on elytral intervals 3, 5, and 7. Further study is needed; possibly, all or most of the genera of the Harpali, Selenophori, and Bradybaeni should be combined into a single supra-generic group.

Phylogenetic relationships of genera of the Acinopi, Bleusei, and Dapti groups have long puzzled workers. The species are fossorial; many of the synapomorphies used to group genera are adaptations for such a mode of life and therefore possibly due to convergence rather than to common ancestry. A study of phylogenetic relationships of taxa of these groups as well as of the fossorial Harpali genera *Euryderus* and *Piosoma* would be interesting.

Lindroth (1968) placed *Cratacanthus* in a monobasic subtribe separate from Harpalina because members of *Cratacanthus* have a dentiform lateral process on the frons, strong tooth on the mentum, modified right mandible in the male, and median lobe of the male genitalia asymmetrical and sclerotized only basally and along the right side ventrally. He felt that possession of a preocular sulcus for reception of the first antennal article is convergent for many fossorial groups and does not support placing *Cratacanthus* in the Acinopi as done by Jeannel (1942). But if the preocular sulcus is convergent, the dentiform frontal process seems to be shared only with *Daptus*, suggesting these genera should be grouped together. The modified right mandible of the male and the strong tooth on the mentum seem good characters for defining the genus *Cratacanthus* but do not seem sufficient to warrant separate subtribal status. And the median lobe of the genitalia of males of *Cratacanthus* also does not warrant separate subtribal status for the genus. Males of many taxa of the tribe Harpalini, for example *Xestonotus lugubris* Dejean (subtribe Anisodactylina), possess an asymmetrical median lobe. The partially membranous venter of the median lobe of males of *Cratacanthus* is a striking feature but is not unique within the tribe Harpalini. For example, one species of *Allocinopus* (subtribe Anisodactylina) has the venter of the median lobe membranous except for the basal bulb region.

The definition, included genera, and proper taxonomic rank of the Ditomi group have been points of disagreement among workers. Tschitschérine (1901) defined the group primarily on the basis of its members having a ligula with dorsal and/or lateral setae and glabrous paraglossae. Jeannel (1942) in turn defined the group primarily by its members having the elytral basal border incomplete or absent, but also stated that only taxa with a plurisetose ligula should be included. He then removed *Carterophonus, Penthus,* and *Bronislavia,* which had formerly been included. Jeannel (1942) and Antoine (1959) disagreed as to the relationships of Ditomi to other harpaline groups. Many of their conclusions are poorly founded since both studied only harpalines of restricted regions of the world. The diagnosis of Ditomi, included taxa and ranking of such taxa presented in this paper is provisional; further study may demonstrate that the group is paraphyletic or polyphyletic.

The Harpali group

Diagnosis. – First article of hind tarsi of most specimens stout and shorter than articles 2 + 3. Elytral intervals 3, 5, 7 not each with row of dorsal setigerous punctures. Abdominal sterna of most specimens without setae other than 2 ambulatory setae on sterna 3 to 5 and 2 or 4 such setae on sternum 6. Median lobe of male genitalia with ostium deflected to the left in most species.

Distribution. – Taxa are concentrated in the Palaearctic and Nearctic Regions while the Ethiopian and Oriental Regions contain lesser numbers. The Australian Region contains only the monobasic New Guinea genus *Lyter* and 4 species of the Indo-Australian genus *Harpaloxenus.* The Neotropical Region contains no endemic Harpali; a few Nearctic species approach and possibly enter northern fringes of the Neotropical Region.

Supra-specific taxa. –

Piosoma LeConte

Piosoma LeConte, 1848: 374. Type Species: *Piosoma setosum* LeConte, by monotypy.

Lindroth (1968) redescribed this di-basic Nearctic genus and *P. setosum.*

Euryderus LeConte

Euryderus LeConte, 1846: 151. Type Species: *E. zabroides* LeConte (= *E. grossus* Say), by monotypy.

Nothopus LeConte, 1852: 67. Replacement name for *Euryderus.* Type Species: *E. zabroides* LeConte, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus name must have the same type species as the original one.

Ball (1960a) conclusively demonstrated that this North American genus contains only *E. grossus.*

Harpalobrachys Tschitschérine

Harpalobrachys Tschitschérine, 1899b: 601. Type Species: *Harpalus leiroides* Motschulsky, by monotypy.

Lindroth (1968) redescribed this monobasic Holarctic genus and (1969) provided keys for its identification.

Harpalus Latreille

Harpalus Latreille, 1802: 92. Type Species: *Carabus proteus* Paykull (= *Carabus affinis* Schrank) here tentatively accepted as type species. See below.

Latreille (1810: 426) validly designated *Carabus ruficornis* Fabricius (= *H. rufipes* Degeer) as the type species of *Harpalus.* Andrewes (1935) pointed out that *Carabus ruficornis* is now a member of *Pseudophonus* and that acceptance of Latreille's designation would require nomenclatural changes in the well known taxa *Harpalus* and *Pseudophonus.* He further noted that of the 25 species first included in *Harpalus* the sole one now in *Harpalus sensu stricto* is *Carabus proteus* (= *Carabus affinis*) and proposed that *Carabus affinis* be treated as the type species of *Harpalus.* Subsequent workers such as Basilewsky (1951: 9), Jeannel (1942: 658), and Lindroth (1968: 749) have accepted *Carabus affinis* as the type species. Since *Carabus proteus* was one of the originally included species and since it and *Carabus affinis* are conspecific, I think *Carabus proteus* should be accepted as the type species of *Harpalus* in order to prevent needless nomenclatural changes. However a ruling is needed by the International Commission on Zoological Nomenclature.

This is the largest genus of the subtribe and contains 37 subgenera, 6 species groups proposed by Lindroth (1968) for North American species, and approximately 480 species. Lindroth (1968) arranged most North American species into groups (some of which correspond to previously named subgenera) formed primarily on the basis of structures of the internal sac of the penis. He justifiably noted that reclassification of the Old World *Harpalus* will not be possible until a similar study is done on them. Such a study will probably demonstrate that several of Lindroth's species groups correspond to already named Palaearctic subgenera. A worldwide revision of all supra-specific taxa and of many of the included species is very much needed.

Taxa of *Harpalus* are primarily concentrated in the Nearctic and Palaearctic regions, but 56 species are found in the Ethiopian Region, and a few species occur in the Oriental Region. Basilewsky (1951) noted that the species of the Ethiopian Region could not be satisfactorily placed in subgenera, provided a key to the 52 Ethiopian species then known, and later (1958) described 4 additional ones. Approximately 18 additional species not assigned to subgenera are in other regions.

subgenus *Macrophonus* Tschitschérine

Macrophonus Tschitschérine, 1901: 233. Type Species: *Harpalus oblongus* Schaum, by monotypy.

The 4 included species are centered in Asia Minor and northern parts of the Middle East, with the type species extending as far west as Greece. A revision is needed.

subgenus *Cephalophonus* Ganglbauer

Cephalophonus Ganglbauer, 1892: 340, 345. Type Species: *Harpalus cephalotes* Fairmaire and Laboulbene, by monotypy.

Reitter (1900) provided keys for identification of this monobasic Palaearctic subgenus.

subgenus *Ophonus* Dejean

Ophonus Dejean, 1821: 13. Type Species: *Carabus sabulicola* Panzer here proposed as type species (see below).

Metophonus Bedel, 1897: p. 111 in key to genera; 1899: p. 137 genus description, species list. Type Species: *Harpalus syriacus* Dejean, by original designation.

Authorship of *Ophonus* has previously been accorded to Stephens (1827). However Dejean is the actual author since he (1821: 13) listed *Ophonus* as a genus and included several previously described species in it. Stephens (1827) was merely referring to the *Ophonus* of Dejean.

Andrewes (1935, p. 19-20; 1939b, p. 182) noted that Curtis (1827: plate 191) validly designated *Carabus germanus* Linnaeus as the type species and that this species is also the type species of *Diachromus* Erichson. In the interest of nomenclatural stability, Andrewes suggested suppressing the designation by Curtis and accepting that by Westwood (1838) of *Carabus obscurus* Fabricius. Subsequent workers (Antoine, 1959; Ball, 1960b, 1963, 1968; Habu, 1973; Jeannel, 1942; Lindroth, 1968) have followed this suggestion. But *C. obscurus* Fabricius was not one of the species listed in *Ophonus* by Dejean (1821: 13). Hope (1838: 84) designated *Carabus sabulicola* Panzer (the first species listed by Dejean, 1821) as the type species of *Ophonus*. Since Hope's and Westwood's papers were published in the same year without information on their month of publication, I here accept Hope's designation as prior to that of Westwood. A final ruling to suppress Curtis's designation is needed by the International Commission on Zoological Nomenclature. Such a ruling will avoid nomenclatural chaos.

This Palaearctic subgenus contains approximately 71 species; two of which, *H. punticeps* Stephens and *H. rufibarbis* Fabricius, have been introduced into North America. Authors have disagreed on: whether *Metophonus* and *Ophonus* are congeneric; which species should be placed in *Metophonus* if it is accorded separate status; and the proper taxonomic status of many forms named as species. The following regional studies aid in species identification: Bedel (1895-1900) for some north African species; Fagel (1936) for Belgium; Haberman (1968) for Estonia; Hansen (1968) for Denmark; Jeannel (1942) for French species known at that time; Lindroth (1935a, 1974) for Britain, (1935b) for Fennoskandinavia, and (1968) for North America; Mlynář (1974) for Mongolia; Müller (1931) for central Europe, Italy, and the Balkans, Puel (1935) for some Palaearctic species; and Reitter (1900) for many Palaearctic species. A revision treating all species is needed.

subgenus *Semiophonus* Schauberger

Semiophonus Schauberger, 1933d: 131. Type Species: *Harpalus tibeticus* Andrewes, by monotypy.

This monobasic subgenus occurs in Tibet.

subgenus *Sulcophonus* Schauberger

Sulcophonus Schauberger, 1933d: 130. Type Species: *Ophonus sulcifer* Tschitschérine, by monotypy.

This monobasic subgenus occurs in Syria and Asia Minor.

subgenus *Typsiharpalus* Tschitschérine

Typsiharpalus Tschitschérine, 1901: 240. Type Species: *Harpalus punctatipennis* Rambur, designated by Antoine, 1959: 362.

Antoine (1925) provided a key to the 3 species of this Palaearctic subgenus.

subgenus *Pseudophonus* Motschulsky

Pseudophonus Motschulsky, 1844: table between p. 196 and 197. Type Species: *Carabus ruficornis* Fabricius (= *H. rufipes* Degeer), designated by Motschulsky, 1864: 208. (original spelling, *Pseudoophonus,* emended to *Pseudophonus* by Motschulsky, p. 37 in Ménétriés, 1849).

Harpalophonus Ganglbauer, 1892: 341, 346. Type Species: *Harpalus hospes* Sturm, by monotypy.

Migadophonus Tschitschérine, 1897b: 47. Type Species: *Ophonus aenigma* Tschitschérine, by monotypy.

This subgenus contains 14 Palaearctic species, 1 Holarctic, and 11 Nearctic. All but 3 species (*H. aenigma,* from Korea, *H. ciscaucasicus* Lutshnik and *H. praetermissus* Lutshnik, both from Russia) may be identified by use of the following regional studies: Antoine (1959) for Morocco; Ball and Anderson (1962) for North America; Habu (1973) for Japan and in part for adjacent Northern Asia; Hansen (1968) for Denmark; Jeannel (1942) for France; Lindroth (1961, 1974) for Sweden and Britain respectively; Mlynář (1974) for Mongolia; Porta (1923) for Italy; Reitter (1900) for Europe and adjacent areas. A revision treating all Palaearctic species is needed.

subgenus *Eriophonus* Tschitschérine

Eriophonus Tschitschérine, 1901: 235. Type Species: *Harpalus (Parophonus) grandiceps* Reitter, by original designation and monotypy.

Tschitschérine (1901) provided keys for identification of *Eriophonus* and its sole species, *H. grandiceps* from Syria; Reitter (1900) keyed out *H. grandiceps* as a member of *Parophonus* which he regarded as a subgenus of *Ophonus.*

subgenus *Hesperophonus* Antoine NEW STATUS

Hesperophonus Antoine, 1959: 362, 364-365. (as subgenus of *Ophonus*).. Type Species: *Harpalus (Ophonus) rotundatus* Dejean, by original designation.

See Antoine (1959) for a key to the 2 species of this Palaearctic subgenus.

subgenus *Cephalomorphus* Tschitschérine

Cephalomorphus Tschitschérine, 1897b: 45. Type Species: *Harpalus capito* Morawitz, by monotypy.

Habu (1973) provided keys for identification of this monobasic subgenus found in northern Asia, Japan, and Formosa.

subgenus *Platus* Motschulsky

Platus Motschulsky, 1844: table between p. 196 and 197, p. 197. Type Species: *Harpalus calcitrapus* Motschulsky (first species listed) (= *H. calceatus* Duftschmid), here designated.

Pardileus Des Gozis, 1882: 289. Type Species: *Carabus calceatus* Duftschmid, by monotypy. NEW SYNONYMY.

Neopardileus Habu, 1954b: 283. Type Species: *Ophonus itoshimanus* Habu (= *H. calceatus*

Duftschmid), by original designation and monotypy.

This subgenus contains: 7 species in northern Asia; *H. meridianus* Andrewes in India; and *H. calceatus* found from Europe to Northern Asia. Habu (1973) redescribed *H. calceatus.* A revision is needed.

subgenus *Licinoderus* Sainte-Claire Deville

Licinoderus Sainte-Claire Deville, 1905: 114. Type Species: *Licinoderus chobauti* Sainte-Claire Deville (= *H. chobautianus* Lutshnik), by monotypy.

Jeannel (1942) provided keys for identification of this monobasic subgenus found in the Pyrenees.

subgenus *Cephalotypsis* Tschitschérine

Cephalotypsis Tschitschérine, 1900b: 238. Type Species: *Harpalus (Cephalotypsis) semenowi* Tschitschérine, by monotypy.

This monobasic subgenus occurs in Tibet.

subgenus *Artabas* Des Gozis

Artabas Des Gozis, 1882: 287. Type Species: *Harpalus punctatostriatus* Dejean, by monotypy.

Reitter (1900) is of assistance for identification of 6 of the 9 species of this Palaearctic subgenus. A revision is needed.

subgenus *Neopangus* Tschitschérine

Neopangus Tschitschérine, 1898b: 170. Type Species: *Neopangus breviformis* Tschitschérine (sixth species listed), here designated.

This Palaearctic subgenus contains 6 species; all need revision.

subgenus *Brachypangus* Tschitschérine

Brachypangus Tschitschérine, 1898b: 174. Type Species: *Brachypangus antonowi* Tschitschérine, by monotypy.

This Palaearctic subgenus is monobasic.

subgenus *Pangus* Dejean

Pangus Dejean, 1821: 13. Type Species: *Harpalus scaritides* Sturm, by monotypy.

Microderes Faldermann, 1835: 80. Type Species: *Microderes robustus* Faldermann, by monotypy.

Bioderus Motschulsky, 1848: 487. Replacement name for *Microderes* Faldermann. Type Species: *Microderes robustus* Faldermann, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus name must have the same type species as the original one.

Reitter (1900) may be useful in identification of the 3 species of this Palaearctic subgenus. A revision is needed.

subgenus *Loxophonus* Reitter

Loxophonus Reitter, 1894: 124. Type Species: *Harpalus (Loxophonus) setiporus* Reitter, by monotypy.

Reitter (1900) provided keys for identification of this monobasic Palaearctic subgenus.

subgenus *Neophygas* new name

Replacement name for *Phygas* Motschulsky. Type Species: *Phygas nitidus* Motschulsky (= *P. microcephalus* Faldermann) since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus name must have the same type species as the original one.

Phygas Motschulsky, 1848: 488. Type Species: *Phygas nitidus* Motschulsky (= *P. microcephalus*), by original designation. (*Phygas* Motschulsky, 1848 is a junior homonym of *Phygas* Treitschke, 1833).

Reitter's (1900) key to species listed the sole included species, *H. microcephalus* from northern Asia, as *H. obtusangulus* Faldermann. Mlynář (1974) distinguishes *H. obtusangulus* from other species found in Mongolia.

subgenus *Acardystus* Reitter

Acardystus Reitter, 1908: 172-174. Type Species: *Harpalus rufus* Bruggemann (= *H. flavescens* Piller and Mitterpacher), designated by Schauberger, 1926: 45.

Loboharpalus Schauberger, 1932a: 174. Type Species: *Harpalus platynotus* Bates, by original designation.

Habu (1973) provided a key to the 2 Japanese species; Schauberger (1932a) provided a key to the 2 Japanese species and to *H. lobipes* Tschitschérine from Korea. The fourth included species, *H. flavescens,* is also Palaearctic. A revision is needed.

subgenus *Hypsinephus* Bates

Hypsinephus Bates, 1878d: 715. Type Species: *Hypsinephus ellipticus* Bates (= *Harpalus salinus* Dejean), by monotypy.

Rapahlus Lutshnik, 1922: 61. Type Species: *Harpalus salinus* Dejean, by original designation and monotypy.

Mlynář (1974) revised the 2 species of this Palaearctic subgenus.

subgenus *Harpalus* Latreille

Harpalus Latreille, 1802: 92. Type Species: See discussion under genus *Harpalus.*

Actephilus Stephens, 1833: column 11. Type Species: *Carabus vernalis* Duftschmid,designated by Westwood, 1838: 4.

Probably Westwood meant *Carabus vernalis* Fabricius, one of the originally included species, since Duftschmid did not describe a *Carabus vernalis* but did (1812) refer to the *Carabus* *vernalis* of Fabricius.

Conicus Motschulsky, 1844: 197. Type Species: *Harpalus acuminatus* Motschulsky (first species listed) (= *H. optabilis* Dejean), here designated. (The citation by Motschulsky, 1864: 209 of *H. optabilis* Faldermann [Dejean was the actual author of this species] is invalid because *H. optabilis* was not originally included in *Conicus*.)

Erpeinus Motschulsky, 1844: table between p. 196 and 197, p. 197. Type Species: *Harpalus pastor* Motschulsky (second species listed), here designated.

Pheuginus Motschulsky, 1844: table between p. 196 and 197, p. 197. Type Species: *Harpalus optabilis* Dejean (fourth species listed), here designated. (The citation by Motschulsky, 1864: 209 of *H. tardus* Panzer as type species is invalid because this species was not originally included in *Pheuginus*.)

Amblystus Motschulsky, 1864: 209. Type Species: *Carabus rubripes* Duftschmid, by original designation and monotypy.

Ooistus Motschulsky, 1864: 209. Type Species: *Harpalus taciturnus* Dejean (first species listed), here designated.

Epiharpalus Reitter, 1900: 75, 80. Type Species: *Carabus aeneus* Fabricius (= *H. affinis* Schrank), designated by Habu, 1973: 68.

Lasioharpalus Reitter, 1900: 75: 86. Type Species: *Harpalus cupreus* Dejean, designated by Habu, 1973: 68.

Harpaloxys Reitter, 1900: 75, 94. Type Species: *Harpalus cardioderus* Putzeys (fifth species listed) (= *Harpalus ebenius* Heyden), here designated.

Harpaloderus Reitter, 1900: 76: 100. Type Species: *Harpalus sulphuripes* Germar, designated by Habu, 1973: 68.

Harpalobius Reitter, 1900: 76, 103. Type Species: *Harpalus fuscipalpis* Sturm, designated by Habu, 1973: 68.

Microharpalus Tschitschérine, 1901: 241. Type Species: *Harpalus nanulus* Tschitschérine, by monotypy.

Haploharpalus Schauberger, 1926: 44, 45. Type Species: *Harpalus froelichi* Sturm, designated by Habu, 1973: 68.

Parhalus Jeannel, 1948: 674, 676. Type Species: *Harpalus madagascariensis* Dejean, by original designation.

This subgenus is the largest supra-specific taxon of the subtribe and contains: approximately 200 Palaearctic species, with the Palaearctic *H. affinis* Schrank also introduced into North America; and approximately 6 species in northern areas of the Oriental Region. The following regional studies aid in species identification: Antoine (1959) for Morocco; Bedel (1895-1900) for northern Africa; Haberman (1968) for Morocco; Habu (1973) for Japan and part of adjacent northern Asia; Hansen (1968) for Denmark; Jeannel (1942) for France; Lindroth (1961, 1968, 1974) for Sweden, North America, and Britain respectively; Mlynář (1974) for Mongolia; Müller (1931) for central Europe, Italy, and the Balkans; Porta (1923) for Italy; Reitter (1900) for Europe and adjacent parts of the Palaearctic Region; and Schauberger (1932a) for the 9 Palaearctic species he regarded as members of the former subgenus *Haploharpalus*. These regional studies together deal with only part of the Palaearctic species of the subgenus *Harpalus* and refer many species of this subgenus to other subgenera. A revision of all species is very much needed.

subgenus *Nipponharpalus* Habu

Nipponharpalus Habu, 1973: 69, 193. Type Species: *Harpalus discrepans* Morawitz, by original designation and monotypy.

Habu (1973) provided keys for identification of this monobasic subgenus from northern Asia and Japan.

subgenus *Neoharpalus* Mateu

Neoharpalus Mateu, 1954: 4. Type Species: *Harpalus (Neoharpalus) franzi* Mateu, by monotypy.

The single included species occurs in Spain.

subgenus *Megapangus* Casey

Megapangus Casey, 1914: 71. Type Species: *Carabus caliginosus* Fabricius, by monotypy.

Lindroth (1968) provided a key for identification of the single species of this Nearctic subgenus.

subgenus *Plectralidus* Casey

Plectralidus Casey, 1914: 72. Type Species: *Harpalus erraticus* Say, designated by El-Moursey, 1958: 37.

El-Moursey (1958) revised the 2 species of this North American subgenus, and Lindroth (1968) provided a key to them.

subgenus *Pharalus* Casey

Pharalus Casey, 1914: 63, 68. Type Species: *Pangus testaceus* LeConte (= *Harpalus indianus* Csiki), by original designation and monotypy.

Lindroth provided a key for identification of the single species of this Nearctic subgenus.

subgenus *Harpalomerus* Casey

Harpalomerus Casey, 1914: 76. Type Species: *Harpalus amputatus* Say, designated by Lindroth, 1968: 768.

Lindroth (1968) provided a key for identification of the single species of this Nearctic subgenus.

subgenus *Euharpalops* Casey

Euharpalops Casey, 1924: 116. Type Species: *Euharpalops wadei* Casey (= *Harpalus fraternus* LeConte), by original designation and monotypy.
Euharpalus Hatch, 1953: 170. (typographical error).

See Lindroth (1968) for a key to the 9 species of this Nearctic subgenus.

spadiceus group

Lindroth (1968) placed 2 Nearctic species in this group and provided a key to them.

ventralis group

Lindroth (1968) placed 2 Nearctic species in this group and provided a key to them.

fulvilabris group

Lindroth (1968) placed 2 Nearctic species in this group and provided a key to them.

subgenus *Cordoharpalus* Hatch

Cordoharpalus Hatch, 1949: 87. Type Species: *Harpalus cordifer* Notman, by original designation and monotypy.

Lindroth (1968) provided a key for identification of the single species of this Nearctic subgenus.

innocuus group

Lindroth (1968) placed 2 Nearctic species in this group and provided a key to them.

desertus group

Lindroth (1968) placed 2 species in this Nearctic subgenus and provided a key for identification of one of them.

subgenus *Opadius* Casey

Opadius Casey, 1914: 63, 66. Type Species: *Cratognathus cordatus* LeConte (= *Harpalus (Opadius) tadorcus* Ball), by original designation and monotypy.

Casey (1914, 1924) may be of assistance in identifying the 2 species of this Nearctic subgenus.

subgenus *Glanodes* Casey

Glanodes Casey, 1914: 50, 60. Type Species: *Harpalus obliquus* Horn, by original designation.

Ball (1972) provided an excellent revision of the 6 species of this Nearctic subgenus and (1973) provided a new name, *H. cunctipeps*, for *H. puncticeps* Casey.

fulgens group

Lindroth (1968) placed a single Nearctic species in this group and provided a key for its identification.

Episcopellus Casey

Episcopellus Casey, 1914: 220, 235. Type Species: *Feronia autumnalis* Say, by original designation.

Lindroth (1968) redescribed this monobasic Nearctic genus and (1969) provided keys for its identification.

Liochirus Tschitschérine

Liochirus Tschitschérine, 1897b: 47. Type Species: *Ophonus cycloderus* Solsky, by monotypy.

Reitter (1900) provided keys for identification of this monobasic Palaearctic subgenus.

Nesarpax Alluaud

Nesarpax Alluaud, 1936: 125. Type Species: *Cratognathus labiatus* Erichson, by monotypy.

Basilewsky (1951) provided keys for identification of this monobasic Ethiopian genus.

Harpalodes Basilewsky

Harpalodes Basilewsky, 1951: 9, 55. Type Species: *Harpalus xanthorhaphus* Wiedemann, by original designation.

Basilewsky (1951) provided keys for identification of this monobasic Ethiopian genus.

Omostropus Péringuey

Omostropus Péringuey, 1896: 418, 429. Type Species: *Omostropus tersulus* Péringuey, designated by Basilewsky, 1946b: 255.

Basilewsky (1951) provided a key to the 8 species of this Ethiopian genus.

Ectinothorax Alluaud

Ectinothorax Alluaud, 1941: 5. Type Species: *Cratognathus sulcator* Fairmaire, by original designation.

See Basilewsky (1951) for a key to the 6 species of this Ethiopian genus.

Cratognathus Dejean

Cratognathus Dejean, 1829a: 4, 46. Type Species: *Cratognathus mandibularis* Dejean, by monotypy.
Eucephalus Laporte, 1834: 66. Type Species: *Eucephalus capensis* Laporte, by monotypy.
Daptomorphus Chaudoir, 1837: 39. Type Species: *Daptomorphus capensis* Chaudoir (= *C. capensis* Laporte), by monotypy.
Cyphogenius Chaudoir, 1843: 395. Type Species: *Cyphogenius pallipes* Chaudoir (= *Cratognathus mandibularis* Dejean), by monotypy.
Encephalus Péringuey, 1896: 417, 423. (typographical error).
Micracinopus Casey, 1914: 63, 64. Type Species: *Micracinopus politissimus*, by original designation and monotypy.

Basilewsky (1951) provided a key to the 5 species of this Ethiopian genus.

Harpalinus Jeannel

Harpalinus Jeannel, 1946: 160, 162. Type Species: *Cratognathus flavilabris* Fairmaire, by original designation and monotypy.

Basilewsky (1951) provided a key to the 3 species of this Ethiopian genus.

Lyter Darlington

Lyter Darlington, 1968: 40, 63. Type Species: *Lyter glaber* Darlington, by original designation and monotypy.

Darlington (1968) provided a key for identification of this monobasic New Guinea genus.

Liodaptus Bates

Liodaptus Bates, 1890: 102. Type Species: *Liodaptus birmanus* Bates, by monotypy.

A key to the 2 species of this Oriental genus would be useful.

Harpaloxenus Schauberger

Harpaloxenus Schauberger, 1933b: 154. Type Species: *Harpalus javanus* Schauberger, by original designation.

Schauberger (1933b) provided keys to 3 new species, 1 from the Philippines and 2 from the Indo-Australian Archipelago. Darlington (1968) provided keys to 5 New Guinea species, one of which, *H. celebensis* Schauberger, also occurs in the Indo-Australian Archipelago.

Penthus Chaudoir

Penthus Chaudoir, 1843: 387-390. Type Species: *Penthus tenebricosus* Chaudoir (= *P. tenebrioides* Waltl), by monotypy.

Reitter (1900) provided keys for identification of this monobasic Palaearctic genus.

Nesacinopus Tschitschérine

Nesacinopus Tschitschérine, 1900b: 353, 359. Type Species: *Cratognathus pelagicus* Wollaston (the second species listed by Wollaston, 1865: 44), here designated.

Wollaston, (1865: 44-46) and Bedel (1898: 127) added to *Cratognathus* Dejean a total of 7 species from the Canary, Madeira, and Salvage Islands. Tschitschérine (1900b: 353, 359) proposed *Nesacinopus* as a new genus group name and said it referred to the 7 species previously treated by Wollaston and Bedel. Wollaston clearly cited Dejean as the author of *Cratognathus* contrary to Csiki (1932: 1095) and did not propose a new genus with the name *Cratognathus.*

Csiki (1932) listed only 5 species as belonging to *Nesacinopus*; a revision is needed.

Nesarpalus Bedel

Nesarpalus Bedel, 1897, p. 111 in key to genera; 1898,p. 128 formal genus description, included species. Type Species: *Harpalus vividus* Dejean (= *N. gregarius* Fauvel), by original designation on p. 111.

This genus contains 2 species in the Canary and Madeira Islands; a species key would be useful.

The Selenophori group

Diagnosis. – Ligula narrow in most species. Hind tarsi of most species elongate and with articles 1 as long as or nearly as long as 2 + 3. Most species with short hind tarsi also with row of dorsal setigerous punctures on elytral intervals 3, and/or 5 and/or 7. Abdominal sterna of most species without extra setae. Median lobe of male genitalia of most species with ostium dorsal in position.

Distribution. – Taxa are primarily centered in the Neotropical, Ethiopian, and to a lesser degree the Oriental and Nearctic Regions. A few species of Oriental groups extend along the Indo-Australian Archipelago as far as New Guinea.

Discussion. – I am completing a revision of all supra-specific taxa and to date have studied most Old World supra-specific taxa. Taxonomic changes proposed here will be justified in the forthcoming revision of Selenophori. New World taxa are listed first and then Old World taxa in approximate phylogenetic order.

Supra-specific taxa. –

Selenophorus Dejean

Selenophorus Dejean, 1829a: 4, 80. Type Species: *Carabus palliatus* Fabricius, designated by Hope, 1838: 84.

Hemisopalus Casey, 1914: 134, 135. Type Species: *Selenophorus opalinus* LeConte, by original designation.

Celiamorphus Casey, 1914: 134, 141. Type Species: *Selenophorus ellipticus* Dejean, designated by Lindroth, 1968: 828.

Selenalius Casey, 1914: 135, 153. Type Species: *Discoderus cordicollis* Horn, by original designation.

Study may demonstrate that *Hemisopalus, Celiamorphus,* and *Selenalius* are valid subgenera. Authors have disagreed on their proper status and have described many new species without giving subgeneric placement; therefore, I list these names as synonyms of *Selenophorus* until their proper status is eluciated. Most of the 175 species of this genus occur in the Neotropical Region; a few enter or are endemic to the Nearctic. Lindroth (1968) revised the Canadian and a few more southern species; Putzeys (1878) revised the genus, but this revision is out of date. George Ball is revising the North and Central American species; a revision of the South American forms is very much needed.

Discoderus LeConte

Discoderus LeConte, 1853: 381. Type Species: *Selenophorus parallelus* Haldeman, designated by Lindroth, 1968: 830.

This genus contains approximately 27 species distributed from Canada to Mexico; G. Ball is revising the species.

Athrostictus Bates

Athrostictus Bates, 1878b: 592. Type Species: *Athrostictus sericatus* Bates (second species listed), here designated.

Arthostictus Rye, 1880: 33. (typographical error).

This Neotropical genus contains approximately 16 species; all need revision.

Anisocnemus Chaudoir

Anisocnemus Chaudoir, 1843: 391. Type Species: *Anisocnemus validus* Chaudoir, by monotypy.

This monobasic genus ranges from Mexico into South America.

Trichopselaphus Chaudoir

Trichopselaphus Chaudoir, 1843: 399. Type Species: *Trichopselaphus subiridescens* Chaudoir, by monotypy.

This genus contains *T. minor* Bates from Mexico and *T. subiridescens* from South America; a key to them would be useful.

Hartonymus Casey

Hartonymus Casey, 1914: 135, 165.Type Species: *Hartonymus hoodi* Casey, by original designation and monotypy.

Ball (1960, 1963, 1968) provided keys for identification of this monobasic Nearctic genus.

Stenomorphus Dejean

Stenomorphus Dejean, 1831: 692, 696. Type Species: *Stenomorphus angustatus* Dejean, by monotypy.

Agaosoma Ménétriés, 1843: 63. Type Species: *Agaosoma californicus* Ménétriés, by monotypy.

Darlington (1936) revised 9 species of this predominately Neotropical genus and later (1937) described a tenth from Cuba.

Amblygnathus Dejean

Amblygnathus Dejean, 1829a: 4, 62. Type Species: *Amblygnathus cephalotes* Dejean, designated by Brullé, 1835: 10.

This Neotropical genus contains 10 species; all need revision.

Gynandropus Dejean

Gynandropus Dejean, 1831: 810, 817. Type Species: *Gynandropus americanus* Dejean (= *G. hylacis* Say), by monotypy.

Two species are recorded from the United States and 12 from Mexico and/or Central and South America. Lindroth (1968) redescribed *G. hylacis.* A revision is needed.

Harpalellus Lindroth

Harpalellus Lindroth, 1968: 815. Type Species: *Harpalus basilaris* Kirby, by original designation and monotypy.

Lindroth (1968) described this monobasic Nearctic genus and (1969) provided keys for its identification.

Aztecarpalus Ball

Aztecarpalus Ball, 1970: 97. Type Species: *Harpalus hebescens* Bates, by original designation.

Ball (1970) revised the 7 species of this Neotropical genus.

Trichotichnus Morawitz

Trichotichnus Morawitz, 1863: 63. Type Species: *Trichotichnus longitarsis* Morawitz, by monotypy.

subgenus *Trichotichnus* Morawitz

Trichotichnus Morawitz, 1863: 63. Type Species: *Trichotichnus longitarsis* Morawitz, by monotypy.

Iridessus Bates, 1883: 240. Type Species: *Harpalus lucidus* Morawitz, designated by Habu, 1954: 245.

Amaroschesis Tschitschérine, 1897a: 28. Type Species: *Zabrus chinensis* Fairmaire, designated by Andrewes, 1939a: 130.

Asmerinx Tschitschérine, 1898b: 183: Type Species: *Carabus laevicollis* Duftschmid, designated by Tschitschérine, 1900: 363.

Episcopellus Casey, 1914: 220, 235. Type Species: *Feronia autumnalis* Say, by original designation.

Pteropalus Casey, 1914: 64, 131. Type Species: *Harpalus vulpeculus* Say, designated by Habu, 1954: 245.

Carbanus Andrewes, 1937: 27. Type Species: *Carbanus flavipes* Andrewes, by monotypy. NEW SYNONYMY.

Velimius Jedlička, 1952a: 51. Type Species: *Velimius edai* Jedlička, by original designation and monotypy.

The nominate subgenus contains 54 Palaearctic, 19 Oriental, 14 New Guinea (one of which also occurs in the Moluccas), 4 Nearctic, and 1 Neotropical species.

See the following works for keys to species: Darlington (1968) for New Guinea; Habu (1973) for Japan; Lindroth (1968) for northern North America; Schauberger (1936) for the Palaearctic *T. laevicollis* Duftschmid and 3 related Palaearctic species and for 18 Palaearctic species he regarded as members of the former subgenus *Amaroschesis.* A revision of the species is needed.

subgenus *Pseudotrichotichnus* Habu

Pseudotrichotichnus Habu, 1973: 225. Type Species: *Trichotichnus nanus* Habu, by original designation.

This subgenus includes the 3 species listed by Habu (1973) and *T. bouvieri* Tschitschérine, *T. hingstoni* Andrewes, *T. javanus* Andrewes, *T. lamprus* Bates, *T. nigricans* Schauberger, and *T. sumatrensis* Andrewes. The aggregate range of the 9 species is from Japan through China into India and down the Indo-Australian Archipelago into New Guinea.

See Habu for a key to the 3 Japanese species and Darlington (1968) for a key permitting identification of *T. nigricans,* the sole species recorded from New Guinea. A revision that treats all the species is needed.

Kareya Andrewes

Kareya Andrewes, 1919: 473. Type Species: *Platymetopus erebia* Bates, by original designation.

This Oriental genus includes the 4 species listed by Csiki (1932: 1210). A revision is needed.

Harpaliscus Bates

Harpaliscus Bates, 1892: 340. Type Species: *Harpaliscus birmanicus* Bates, by monotypy.

Schauberger (1934c) provided a key to the 4 species then known of this Oriental genus. Jedlička (1949) described a fifth, *H. matsumurai.*

Axinotoma Dejean

Axinotoma Dejean, 1829a: 4, 29. Type Species: *Axinotoma fallax* Dejean, by monotypy.

subgenus *Axinotoma* Dejean

Axinotoma Dejean, 1829a: 4, 29. Type Species: *Axinotoma fallax* Dejean, by monotypy.
Metarpalus Jeannel, 1946: 159, 161. Type Species: *Metarpalus ambigenus* Jeannel, by original designation and monotypy. NEW SYNONYMY.

Basilewsky (1950) provided keys to the 9 then known species of this Ethiopian subgenus and later (1968a, b) described a total of 2 additional ones.

subgenus *Siopelus* Murray NEW STATUS

Siopelus Murray, 1859: 27. Type Species: *Siopelus calabaricus* Murray, by monotypy.
Harpalidium Kolbe, 1883: 17. Type Species: *Harpalidium punctiger* Kolbe, by monotypy.
Orinophonus Alluaud, 1917a: 92. Type Species: *Orinophonus kilimanus* Alluaud, designated by Basilewsky, 1946b: 251. NEW SYNONYMY.
Africobatus Basilewsky, 1946b: 253, 257. Type Species: *Hypolithus harpaloides* Guérin-Méneville, by original designation and monotypy. NEW SYNONYMY.
Neosiopelus Basilewsky, 1946b: 253, 257. Type Species: *Ophonus punctatellus* Reiche, by original designation and monotypy. NEW SYNONYMY.
Hapocoleus Jeannel, 1948: 652, 654. Type Species: *Harpalus micans* Klug, by original designation and monotypy.
Liosepus Basilewsky, 1950: 174, 176. Type Species: *Siopelus diatypoides* Basilewsky, by original designation and monotypy. NEW SYNONYMY.

Basilewsky (1950) provided keys to the 41 species then known of this Ethiopian subgenus, and both Basilewsky (1962, 1967b) and Clarke (1973) described additional species. *Axinotoma basilewskyi* is here proposed as a new name for *Neosiopelus kilimanus* Basilewsky, 1962, a junior secondary homonym of *Orinophonus kilimanus* Alluaud, 1917.

Afromizonus Basilewsky

Afromizonus Basilewsky, 1947: 204. Type Species: *Afromizonus tecospilus* Basilewsky, by original designation.

See Basilewsky (1950) for keys to the 3 species of this Ethiopian genus.

Xenodochus Andrewes

Xenodochus Andrewes, 1941: 317. Replacement name for *Xenodus* Andrewes. Type Species: *Xenodus dabreui* Andrewes, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus name must have the same type species as the original one.

Xenodus Andrewes, 1924: 92. Type Species: *Xenodus dabreui* Andrewes, by monotypy. (*Xenodus* Andrewes, 1924 is a junior homonym of *Xenodus* Miller, 1892).

Afropangus Jeannel, 1946: 159, 161. Type Species: *Selenophorus senegalensis* Dejean, by original designation.

Basilewsky (1950) provided a key to the 8 Ethiopian species. There is also 1 species in India and another in Ceylon. A key to all species is needed.

Aulacoryssus Alluaud

Aulacoryssus Alluaud, 1916: 63-69. Type Species: *Hypolithus aciculatus* Dejean, by original designation.

subgenus *Aulacoryssus* Alluaud

Aulacoryssus Alluaud, 1916: 63-69. Type Species: *Hypolithus aciculatus* Dejean, by original designation.

Basilewsky (1950) provided a key to 2 species of this Ethiopian genus and later (1968b) described a third.

subgenus *Pseudosiopelus* Alluaud

Pseudosiopelus Alluaud, 1916: 66-68. Type Species: *Hypolithus pulchellus* Dejean.

Basilewsky (1950) provided a key to 8 species of this Ethiopian genus and (1956a) modified his earlier key to permit identification of a ninth.

Pseudodiachipteryx Burgeon

Pseudodiachipteryx Burgeon, 1936: 277-278. Type Species: *Pseudodiachipteryx expansipennis* Burgeon, by monotypy.

Basilewsky (1950) provided keys for identification of this monobasic Ethiopian genus.

Parophonus Ganglbauer

Parophonus Ganglbauer, 1892: 340, 345. Type Species: *Carabus maculicornis* Duftschmid, designated by Jeannel, 1942: 625.

subgenus *Parophonus* Ganglbauer

Parophonus Ganglbauer 1892: 340, 345. Type Species: *Carabus maculicornis* Duftschmid, designated by Jeannel, 1942: 625.

Hypolithus Dejean, November, 1829: 5, 166. Type Species: *Carabus saponarius* Olivier, designated by Hope, 1838: 84. (*Hypolithus* Dejean November, 1829 is a junior homonym of *Hypolithus* Eschscholtz January, 1829).

Tachyophonus Tschitschérine, 1900b: 235, 236. Type Species: *Harpalus planicollis* Dejean, designated by Jeannel, 1942: 625.

Hyparpalus Alluaud, 1930: 162. Type Species: *Hypolithus tomentosus* Dejean, by original designation. NEW SYNONYMY.

Heterohyparpalus Basilewsky, 1946b: 252. Type Species: *Hypolithus integer* Péringuey, by original designation. NEW SYNONYMY.

This subgenus contains 24 Ethiopian species, 12 Palaearctic, and 9 Oriental. Basilewsky (1950) provided a key to 20 Ethiopian species, listed 3 additional as *incertae sedis* and later (1968a) described a twenty-fourth. The following regional studies aid in identification of some Palaearctic species: Antoine (1959) for Morocco; Bedel (1895-1900) for northern Africa; Reitter (1900) for Europe and adjacent areas. A revision treating all species, especially Palaearctic and Oriental ones, is needed.

subgenus *Ophonomimus* Schauberger

Ophonomimus Schauberger, 1923: 72. Type Species: *Harpalus hirsutulus* Dejean, by monotypy.

Pseudokareya Schauberger, 1933c: 77, 78. (*nomen nudum* because Schauberger, 1933, did not designate a type species).

This subgenus contains 3 Oriental and 2 Palaearctic species; all need revision.

subgenus *Ophoniscus* Bates

Ophoniscus Bates, 1892: 337. Type Species: *Ophoniscus iridulus* Bates, designated by Andrewes, 1939a: 136.

This subgenus contains 3 Oriental species; all need revision.

Pseudohyparpalus Basilewsky

Pseudohyparpalus Basilewsky, 1946b: 252, 257. Type Species: *Ophonus angustipennis* Putzeys, by original designation.

Basilewsky (1950) provided a key to the 13 then known species of this Ethiopian genus and later (1956b) described a fourteenth, *P. mossoensis*.

Platymetopus Dejean

Platymetopus Dejean, 1829a: 4, 68. Type Species: *Platymetopus vestitus* Dejean, designated by Hope, 1838: 88.

This genus contains: 26 Ethiopian species; 6 Oriental; one, *P. flavilabris* Fabricius, widespread in the Oriental and present in China and Japan of the Palaearctic; and one, *P. pictus* Andrewes, present in India, Ceylon and Yemen. Basilewsky (1950) provided a key to 24 of the Ethiopian species and in addition listed 2 *incertae sedis*, later (1959a) declared one of the former *incertae sedis*, *P. irisans* Brancsik, to be a synonym of *Aulacoryssus vermiculatus* Putzeys, and finally (1967a) described *P. sudanicus*. Habu (1973) redescribed *P. flavilabris*. A revision that treats all species, especially the Oriental, is needed.

Hyphaereon W. S. MacLeay

Hyphaereon W. S. MacLeay, 1825: 22. Type Species: *Harpalus (Hyphaereon) reflexus* W. S. MacLeay, by monotypy.

Calathomimus Bates, 1886: 77. Type Species: *Calathomimus maculatus* Bates, designated by Andrewes, 1939a: 131.

This genus contains 4 species in Ceylon, 5 in Oriental portions of the Indo-Australian Archipelago, and 3 in New Guinea. Darlington (1968) provided a key to the 3 New Guinea species; the remainder need revision. A key to all 12 species would be useful.

Lampetes Andrewes

Lampetes Andrewes, 1940: 536. Replacement name for *Lamprophonus* Bates. Type Species: *Lamprophonus lucens* Bates, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus must have the same type species as the original one.

Lamprophonus Bates, 1890: 101. Type Species: *Lamprophonus lucens* Bates, by monotypy. (*Lamprophonus* Bates, 1890 is a junior homonym of *Lamprophonus* Morris, 1837.)

This Oriental genus contains 8 species. Schauberger (1935) provided a key to 7 of them; Louwerens (1962) described the eighth and related it to Schauberger's key.

Prakasha Andrewes

Prakasha Andrewes, 1919: 474. Type Species: *Platymetopus (?) amariformis* Bates, by original designation and monotypy.

This genus contains *P. amariformis* Bates, from Burma.

Coleolissus Bates

Coleolissus Bates, 1892: 338. Type Species: *Hypolithus perlucens* Bates, designated by Andrewes, 1939: 132.

Darlington (1968) provided a key to the 2 New Guinea species and Habu (1973) to the 1 Japanese species and to 3 Oriental and 1 undescribed Australian ones. Eight additional Oriental species are known. A revision is needed.

Dioryche W. S. MacLeay

Dioryche W. S. MacLeay, 1825: 21. Type Species: *Harpalus (Dioryche) torta* W. S. MacLeay, by monotypy.

Hypodioryche Schauberger, 1935: 93. Type Species: *Platymetopus cavernosa* Putzeys, by original designation.

This genus contains 14 species. Andrewes (1933) provided a key to the 11 forms found in India and Burma. A revision that treats all 14 species is needed.

Oesyperus Andrewes

Oesyperus Andrewes, 1923: 444. Type Species: *Oesyperus unctulus* Andrewes, designated by Andrewes, 1939a: 136.
Oesiperus Csiki, 1932: 1210. (typographical error).
Oesyparus Andrewes, 1939a: 136. (typographical error).

The 3 species of this Oriental genus need revision.

Oxycentropsis Schauberger

Oxycentropsis Schauberger, 1934c: 89. Type Species: *Trichotichnus orinus* Andrewes, by original designation.

Schauberger (1938) gave a key to 3 of the 6 species of this Oriental genus.

Laparhetes Jeannel

Laparhetes Jeannel, 1946: 159, 160. Type Species: *Laparhetes alluaudi* Jeannel, by original designation and monotypy.

subgenus *Laparhetes* Jeannel

Laparhetes Jeannel, 1946: 159, 160. Type Species: *Laparhetes alluaudi* Jeannel, by original designation and monotypy.

Basilewsky (1950) provided a key to the 2 species of this Ethiopian subgenus.

subgenus *Paratheles* Basilewsky

Paratheles Basilewsky, 1950: 115, 116. Type Species: *Ophonus tibialis* LaFerté-Sénectère, by original designation and monotypy.

Basilewsky (1950) provided keys for identification of this monobasic Ethiopian subgenus.

Harpathaumas Basilewsky

Harpathaumas Basilewsky, 1947: 200. Type Species: *Harpathaumas priscus* Basilewsky, by original designation and monotypy.

Basilewsky (1950) provided keys for identification of this monobasic genus known from 1 male and 1 female from Ethiopia.

Harponixus Basilewsky

Harponixus Basilewsky, 1950: 88, 170. Type Species: *Harponixus pubescens* Basilewsky, by original designation and monotypy.

Basilewsky (1950) provided keys for identification of this monobasic genus known from 1 male from Tanzania.

Hirpastolus Basilewsky

Hirpastolus Basilewsky, 1947: 202. Type Species: *Hirpastolus maynei* Basilewsky, by original designation and monotypy.

Basilewsky (1950) provided keys for identification of this monobasic Ethiopian genus.

Phyrometus Basilewsky

Phyrometus Basilewsky, 1946b: 253, 257. Type Species: *Phyrometus seriepunctatus* Basilewsky, by original designation and monotypy.

Basilewsky (1950) provided keys for identification of this monobasic Ethiopian genus.

Prostalomus Basilewsky

Prostalomus Basilewsky, 1950: 90, 250. Type Species: *Haplocoleus parcepunctatus* Jeannel, by original designation and monotypy.

Basilewsky (1950) provided keys for identification of this monobasic genus known from 1 male from Madagascar.

Nothodaptus Maindron

Nothodaptus Maindron, 1906: 252. Replacement name for *Agriodus* Péringuey. Type Species: *Agriodus simplex* Péringuey, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus must have the same type species as the original one.

Agriodus Péringuey, 1896: 317, 420. Type Species: *Agriodus simplex* Péringuey, by monotypy. (*Agriodus* Péringuey, 1896 is a junior homonym of *Agriodus* Smith, 1840).

Basilewsky (1950) provided keys for identification of this monobasic genus, based on 1 male and 1 female from South West Africa.

Oxycentrus Chaudoir

Oxycentrus Chaudoir, 1854: 345. Type Species: *Oxycentrus parallelus* Chaudoir, by monotypy.

Agreuter Schmidt-Goebel, 1846: plate 3, figure 2, on back cover. Type Species: *Agreuter melas* Schmidt-Goebel, by monotypy. (Since Schmidt-Goebel (1846) illustrated *A. melas*, Habu (1973: 22) was incorrect to declare *Agreuter* a *nomen nudum*.).(*Agreuter* Schmidt-Goebel, 1846 is a junior homonym of *Agreuter* Lepeletier & Serville, 1828).

Oxycentrus contains 8 Oriental species and *O. argutoroides* Bates, found in China and Japan. Habu (1973) redescribed the latter species. A revision is needed.

Bellogenus Clarke

Bellogenus Clarke, 1971a: 264. Type Species: *Bellogenus amazeus* Clarke, by original designation and monotypy.

Clarke (1971a) described this monobasic genus from Ethiopia.

Orphanixus Clarke

Orphanixus Clarke, 1971b: 366. Type Species: *Orphanixus gibbiensis* Clarke, by original designation.

Clarke (1971b) included 2 species from Ethiopia in *Orphanixus* and later (1972a) included a third, also from Ethiopia.

The Bradybaeni group

Diagnosis. – Frontal foveae of head each without clypeo-ocular prolongation. Mentum with or without median tooth. Ligula with 2 distal ventral setae. Paraglossae glabrous or pubescent. Fore tarsi of male with first 4 articles expanded laterally and with ventral biseriate vestiture. Mid tarsi of male same as fore tarsi or unmodified. Hind tarsi with first article long in species of *Pseudoselenophorus* and *Parasiopelus*, short in species of other genera. Abdominal sterna with fringe of setae on posterior borders. Median lobe of male genitalia with ostium deflected to left in species of *Boemimetes* and *Harpalomorphus*, not so deflected in species of other genera.

Distribution. – All taxa are Ethiopian except for 1 Oriental species in each of *Bradybaenus* and *Ooidus*.

Supra-specific taxa. –

Pseudoselenophorus Péringuey

Pseudoselenophorus Péringuey, 1896: 418, 428. Type Species: *Pseudoselenophorus imitator* Péringuey, by monotypy.

Basilewsky (1951) provided keys for identification of this monobasic genus.

Parasiopelus Basilewsky

Parasiopelus Basilewsky, 1946b: 253, 257. Type Species: *Hypolithus ornatus* Péringuey, by original designation.

Tukyellus Basilewsky, 1947: 198. Type Species: *Tukyellus latestriatus* Basilewsky (= *P. ornatus* Péringuey), by original designation and monotypy. NEW SYNONYMY.

Basilewsky (1950, 1951) treated *H. ornatus* Péringuey as the sole species of *Tukyellus,* attempted to set aside his prior (1946b) designation of *H. ornatus* as type species of *Parasiopelus,* and wrote that *Hypolithus lucens* Putzeys was the new type species of *Parasiopelus.* This attempted change of type species contravened Article 61 of the International Code of Zoological Nomenclature; *Hypolithus ornatus* is still the type species of *Parasiopelus.* Basilewsky (1950) included 5 species in his newly defined *Parasiopelus*: *Coleolissus radama* Alluaud; *Parasiopelus charicus* Basilewsky; *Hyparpalus congoanus* Burgeon; *Hypolithus lucens* Putzeys; and *Harpalus micans* Klug. *Harpalus micans* is the type species of *Haplocoleus* Jeannel which replaces the generic name *"Parasiopelus"* for these five species. (*Haplocoleus* is in this paper regarded as congeneric with the subgenus *Siopelus* of the genus *Axinotoma.*) In 1957 Basilewsky described *P. somalicus,* from Somalia, under the generic name *Tukyellus. Parasiopelus* thus contains 2 species: *P. ornatus* and *P. somalicus.*

Bradybaenus Dejean

Bradybaenus Dejean, 1829a: 4, 160. Type Species: *Carabus scalaris* Olivier, designated by Hope, 1838: 84.

Calodromus Nietner, 1858: 181. Type Species: *Calodromus exornatus* Nietner (= *B. festivus* Dejean), by monotypy. (*Calodromus* Nietner, 1858 is a junior homonym of *Calodromus* Guérin-Méneville, 1832).

See Basilewsky (1951) for a key to the 11 Ethiopian species; a twelfth species, *B. festivus*, occurs in India and Ceylon. A key to all 12 species would be useful.

Ooidus Chaudoir

Ooidus Chaudoir, 1847: 2. Replacement name for *Pteroglossus* Chaudoir. Type Species: *Ooidus suturalis* Chaudoir (= *O. ephippium* Dejean), since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus must have the same type species as the original one.

Pteroglossus Chaudoir, 1843: 3, 405. Type Species: *Pteroglossus suturalis* Chaudoir, by monotypy. (*Pteroglossus* Chaudoir, 1843 is a junior homonym of *Pteroglossus* Illiger, 1811).

Basilewsky (1951) provided a key to the 5 Ethiopian species; a sixth, *O. advolans* Nietner, occurs in India and Ceylon. A key to all 6 species would be useful.

Geodromus Dejean

Geodromus Dejean, 1829a: 5, 164. Type Species: *Geodromus dumolinii* Dejean, by monotypy.

Dejean (1829a) reported the single included species to be from Senegal and to be common there. Basilewsky, who has extensive knowledge of the Carabidae of Africa, noted (1951) that he had been able to find only type specimens of this species and that it probably came from a continent other than Africa.

Boemimetes Péringuey

Boemimetes Péringuey, 1896: 453. Type Species: *Harpalus ephippium* Boheman, designated by Basilewsky, 1946b: 255.

Basilewsky (1951) provided a key to the 4 species.

Harpalomorphus Péringuey

Harpalomorphus Péringuey, 1896: 418, 454. Type Species: *Harpalomorphus capicola* Péringuey, designated by Basilewsky, 1946b: 255.

Raphalus Casey, 1914: 64, 65. Type Species: *Raphalus convergens* Casey, by original designation and monotypy.

See Basilewsky (1951) for a key to the 4 species.

The Acinopi group

Diagnosis. – Head relatively large. Genae each with preocular sulcus for reception of first antennal article. Mentum with or without median tooth; with 1 seta on each side of median area. Submentum with 1 seta at each side. Ligula with 2 distal ventral setae and in *Heteracantha depressa* Brullé with 1 or 2 very short fine setae on dorsum and apex. Paraglossae pubescent. Fore and mid tarsi of male with first 4 articles expanded laterally and with ventral biseriate vestiture in some taxa, not expanded and without ventral vestiture in other taxa. Fore and mid tarsi of many females with first 4 articles expanded laterally but without ventral biseriate vestiture. First article of each hind tarsus shorter than 2 + 3. Each elytron with basal edge sloped and with broad appearance in dorsal view; ninth stria removed from lateral margin and tenth interval distinct. Median lobe of male genitalia with ostium dorsal in position.

Distribution. –Species of this Palaearctic group are primarily centered in lands bordering the Mediterranean.

Supra-specific taxa. –

Acinopus Dejean

Acinopus Dejean, 1821: 13. Type Species: *Carabus megacephalus* Illiger (= *A. picipes* Olivier), by monotypy (see below).

Dejean (1821: 13) placed 5 species names in *Acinopus.* Two of these names (*A. maculipennis* and *A. scaritoides* were *nomina nuda.* The remaining three names (*A. megacephalus* Illiger, *A. tenebrioides* Duftschmid, and *A. pasticus* Germar) had been previously described. Dejean treated these three valid names as synonyms of a single species as shown by a line drawn around the left margin of these names and by the single locality given in the right margin. The oldest and first listed of the 3 names is *A. megacephalus*; this is therefore the type species of *Acinopus* by monotypy. I do not know the original generic name under which "*megacephalus*" were described by Illiger). Csiki (1932: 1086) attributed authorship of *Acinopus* to Latreille (1829: 389), but the latter was merely referring to the *Acinopus* of Dejean.

This Palaearctic genus contains 22 species. Puel (1934) revised the 19 species then known. Mateu (1954) described a new species in the nominate subgenus, and Schatzmayr (1935, 1943) added a total of 2 new species to the nominate subgenus. Antoine (1959) provided a key to Moroccan species. A key to all 22 species is needed.

subgenus *Acinopus* Dejean

Acinopus Dejean, 1821: 13. Type Species: *Carabus megacephalus* Illiger (= *A. picipes* Olivier), by monotypy.

Acmastes Schaum, 1863: 76. Type Species: *Acmastes haroldii* Schaum, by monotypy.

Oedematicus Bedel, 1897: 123. Type Species: *Acinopus megacephalus* Rossi,by monotypy.

Haplacinopus Semenov, 1899: 608. Type Species: *Acinopus striolatus* Zoubkoff, by monotypy.

This subgenus contains 21 species.

subgenus *Osimus* Motschulsky

Osimus Motschulsky, 1850: key VII and p. 24. Type Species: *Acinopus ammophilus* Dejean (second species listed), here designated.

This subgenus contains only the type species.

Dregus Motschulsky

Dregus Motschulsky, 1864: 195. Type Species: *Dregus nitidus* Motschulsky (= *D. glebalis* Coquerel), by monotypy.

Antoine (1959) provided keys for identification of this monobasic North African genus.

Heteracantha Brullé

Heteracantha Brullé, 1834: 383. Type Species: *Heteracantha depressa* Brullé, by monotypy.

Antoine (1959) provided keys for identification of this monobasic genus found in North Africa and the Middle East.

The Bleusei group

Diagnosis. – Head relatively large. Mandibles projected laterally from sides. Antennae short, moniliform; scapes almost as long as articles 2 + 3. Mentum without tooth; with 1 seta on each side of median area. Submentum with 2 setae on each side. Ligula narrow, with 2 distal ventral setae. Fore and mid tarsi of male unmodified. Hind tarsi very stout, especially article 1. Each elytron with basal border vertical, narrow in dorsal view; ninth stria adjacent to lateral border and tenth stria indistinct. Median lobe of male genitalia with ostium deflected to left.

Distribution. – The species of the single included genus occur in northern Africa and the Transcaspian Region.

Supra-specific taxon. –

Bleusea Bedel

Bleusea Bedel, 1896b: 345. Type Species: *Bleusea deserticola* Bedel, by monotypy.

Antoine (1959) redescribed *B. deserticola,* found in northern Africa. The other species, *B. ammophila* Tschitschérine, occurs in the Transcaspian Region. A key to both species is needed.

The Dapti group

Diagnosis. – Head relatively large. Frons with dentiform process above each antennal insertion. Genae each with preocular sulcus for reception of first antennal article. Antenna moniliform and short in species of *Daptus,* filiform but short in species of *Cratacanthus.* Mentum very slightly swollen medially in species of *Daptus*; with very prominent sharp median tooth in species of *Cratacanthus*; 1 seta on each side of slight swelling or tooth. Submentum with 2 setae on each side. Ligula narrow, with 2 distal ventral setae. Paraglossae short, glabrous. Fore and mid tarsi of male unmodified. First article of hind tarsi of species of *Daptus* relatively long, almost equal to articles 2 + 3, short in species of *Cratacanthus.* Each elytron with basal edge sloped and with broad appearance in dorsal view; ninth stria removed from lateral margin and tenth interval distinct. Median lobe of male genitalia of species of *Daptus* symmetrical and with fully sclerotized venter; in species of *Cratacanthus* strongly asymmetrical and with venter sclerotized only proximally and along right side.

Distribution. – *Daptus* is a Palaearctic genus while *Cratacanthus* is Nearctic.

Daptus Fischer von Waldheim

Daptus Fischer von Waldheim, 1824: 35. Type Species: *Daptus vittatus* Fischer von Waldheim, designated by Hope, 1838: 88.

Reitter (1900) provided a key to the 4 species then known. Jedlička (1939, 1965) described a total of 2 additional ones. A key to all 6 species is needed.

Cratacanthus Dejean

Cratacanthus Dejean, 1829a: 4, 40. Type Species: *Cratacanthus pennsylvanicus* Dejean (= *C. dubius* Beauvois), by monotypy.

Lindroth (1968) redescribed this genus, stated it probably contains only *C. dubius,* and (1969) provided a key for identification of the genus.

The Amblystomi group

Diagnosis. – Head relatively large. Clypeal apex very deeply emarginate, labral base exposed in emargination. Mentum and submentum separated by complete transverse suture. Mental tooth absent. Mentum without setae in most taxa. Fore and mid tarsi of male unmodified or with first 4 articles laterally expanded and with ventral biseriate vestiture. Scutellar striae absent or each appearing to arise from stria 1 due to having captured distal portion of stria 1 and thus leaving base of stria 1 to appear as scutellar stria. Median lobe of male genitalia with ostium dorsal in position.

Distribution. – Taxa occur in all faunal regions but the Nearctic.

Supra-specific taxa. –

Amblystomus Erichson

Amblystomus Erichson, 1837: 59. Type Species: *Acupalpus mauritanicus* Dejean, designated by Andrewes, 1939a: 130.

Hispalis Rambur, 1838: 135. Type Species: *Acupalpus mauritanicus* Dejean, by original designation and monotypy.

Artizoum Gistl, 1857: 603. Type Species: *Trechus convexus* MacLeay, by original designation and monotypy.

Megaristerus Nietner, 1858: 427. Type Species: *Megaristerus indicus* Nietner, designated by Basilewsky, 1951: 275.

Notophilus Blackburn, 1888: 185. Type Species: *Notophilus gracilis* Blackburn, designated by Basilewsky, 1951: 275.

Thenarotidius Sloane, 1898: 456, 461. Type Species: *Bembidium gagatinus* MacLeay, by original designation.

Psilonothus Sloane, 1899: 557. Type Species: *Psilonothus ovalis* Sloane, by monotypy.

Entomorrhinus Jeannel, 1948: 727, 729. Type Species: *Amblystomus orpheus* LaFerté-Sénectère, by original designation.

Basilewsky (1951) provided a key to 54 Ethiopian species and later described (1953a, 1959b, 1963, 1964) a total of 5 new ones. Reitter (1900) provided a key to the 10 Palaearctic species then known, and Jedlička (1961) described an eleventh. The genus also contains 31 Oriental species, 12 Australian, and one, *A. indicus,* which occurs from Ceylon to Australia. Landin (1955) provided a key to Burmese and Indian species. A revision which treats all species is needed; Oriental and Australian species especially need study.

Anomostomus LaFerté-Sénectère

Anomostomus LaFerté-Sénectère, 1853: 376. Type Species: *Anomostomus torridus* LaFerté-Sénectère, by original designation.

Basilewsky (1951) provided a key to the 2 Ethiopian species: the third, *A. orientalis* Andrewes, occurs in India. A species key is needed.

Barysomus Dejean

Barysomus Dejean, 1829a: 4, 56. Type Species: *Barysomus hoepfneri* Dejean, designated by Brullé, 1835: 12.

All 6 species of this Neotropical genus need revision.

Oosoma Nietner

Oosoma Nietner, 1857: 144. Type Species: *Oosoma arenaria* Nietner (= *O. gyllenhali* Dejean), (first species listed), here designated.

Both species of this Oriental genus need revision.

The Ditomi group

Diagnosis. – Head transverse, relatively large in many taxa, in some taxa with dorsal or ventral tubercules. Genae of some taxa each with preocular sulcus for reception of first antennal article. Mentum and submentum separated by complete transverse suture. Mentum with median tooth; 1 seta at each side of tooth base in some taxa. Ligula thick; in most taxa with an apical ventral plate; with 2 distal ventral setae, except species of *Eriotomus* with additional finer and shorter setae on dorsum and/or sides. Paraglossae glabrous or pubescent. Penultimate articles of labial palpi of some taxa each greatly elongated and with dense fringe of setae on anterior margin. Fore tarsi of male unmodified, except some species of *Carterus* have some articles of male fore tarsi laterally expanded and with irregular to somewhat biseriate sparse ventral vestiture. Each elytron with basal border absent or incomplete in most taxa. Sixth abdominal sternum of female of many taxa with distal margin medially enlarged and plate-like. Median lobe of male genitalia relatively small; ostium dorsal in position.

Distribution. – Taxa are centered in lands around the Mediterranean, with a few species occurring inland in Europe and with the genus *Phorticosomus* being endemic to the Australian Region.

Supra-specific taxa. –

Oedesis Motschulsky

Oedesis Motschulsky, 1850: key VI and p. 20. Type Species: *Ditomus caucasicus* Dejean, here designated (see below).

Eriotomus Piochard de la Brûlerie, 1873: 11, 72. Type Species: *Ditomus tomentosus* Dejean, designated by Stichel, 1923: 85. NEW SYNONYMY.

Eriocypas Tschitschérine, 1901: 225. Type Species: *Ditomus caucasicus* Dejean, by original designation. NEW SYNONYMY.

Oedesis originally (Motschulsky, 1850: p. 20) included "*longicornis* Stev. Cat. p. 21 (*Ophonus*)", apparently a *nomen nudum,* but is a valid generic name because of its treatment in the key. Apparently no valid species have been placed in *Oedesis* before now. Dejean (1831: 520) renamed *Ophonus longicornis* as *Ditomus caucasicus.* In the interest of nomenclatural stability, I have designated *Ditomus caucasicus* as the type species of *Oedesis.*

Reitter (1900) provided a key to 4 of the 6 species of this Palaearctic genus under the generic name *Eriotomus.*

Pachycarus Solier

Pachycarus Solier, 1835: 666. Type Species: *Pachycarus latreillei* Solier, by monotypy.

See Schauberger (1932a) for a key to all taxa of this Palaearctic genus.

subgenus *Mystropterus* Chaudoir

Mystropterus Chaudoir, 1842: 844. Type Species: *Ditomus coeruleus* Brullé (= *P. cyaneus* Dejean), by original designation and monotypy.

This subgenus contains 3 species and ranges from Greece to Syria.

subgenus *Paramystropterus* Schauberger

Paramystropterus Schauberger, 1932a: 155. Type Species: *Mystropterus brevipennis* Chaudoir, by original designation and monotypy.

The single species occurs in Asia Minor and the Middle East.

subgenus *Pachycarus* Solier

Pachycarus Solier, 1835: 666. Type Species: *Pachycarus latreillei* Solier, by monotypy.
Carterocarus Tschitschérine, 1900: 222. Type Species: *Pachycarus latreillei* Solier, by original designation and monotypy.

The sole species occurs in Asia Minor.

Chilotomus Chaudoir

Chilotomus Chaudoir, 1842: 846. Type Species: *Ditomus chalybaeus* Falderman, by monotypy.
Cholochilus Motschulsky, 1850: 21. Replacement name for *Chilotomus* Chaudoir. Type Species: *Ditomus chalybaeus* Falderman, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus must have the same type species as the original one.

Krӯzhanovskiĭ (1962) revised the 6 species of this Palaearctic genus.

Eucarterus Reitter

Eucarterus Reitter, 1900: 37, 53. Type Species: *Eristomus sparsutus* Reitter, by monotypy.

Reitter (1900) provided a key for identification of this monobasic Palaearctic genus.

Bronislavia Semenov

Bronislavia Semenov, 1891: 280, 285. Type Species: *Bronislavia robusta* Semenov, by monotypy.

Mikhaylov (1970) revised the 3 species of this Palaearctic genus.

Pseudaristus Reitter

Pseudaristus Reitter, 1900: 34, 48. Type Species: *Ditomus modestus* Schaum, by monotypy.

Schauberger (1934d) provided a key to the 2 species of this Palaearctic genus.

Carenochyrus Solsky

Carenochyrus Solsky, 1874: 49. Type Species: *Carenochyrus titanus* Solsky, by monotypy.

Reitter (1900) provided a key for identification of this monobasic Palaearctic genus.

Machozetus Chaudoir

Machozetus Chaudoir, 1850: 448. Type Species: *Harpactes lehmani* Ménétriés, by original designation and monotypy.

Harpactes Ménétriés, 1849: 24. Type Species: *Harpactes lehmani* Ménétriés, by monotypy. (*Harpactes* Ménétriés, 1849 is a junior homonym of *Harpactes* Swainson, 1833).

Dioctes Ménétriés, 1849: unnumbered Errata sheet bound in after p. 328 in the British Museum copy. (R. Madge, personnal communication). Replacement name for *Harpactes* Ménétriés. Type Species: *Harpactes lehmani* Ménétriés, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus must have the same type species as the original one. (*Dioctes* Ménétriés, 1849 is a junior homonym of *Dioctes* Gistl, 1848.).

Reitter (1900) provided a key to the 2 species of this Palaearctic genus under the generic name "*Dioctes*".

Eocarterus Stichel

Eocarterus Stichel, 1923: 49, 90. Type Species: *Ditomus chodsenticus* Ballion, by original designation.

Apterocarterus Stichel, 1923: 49, 91. Type Species: *Sabienus (Odontocarus) esau* Heyden, by original designation.

Iberocarterus Antoine, 1959: 334. Type Species: *Ditomus baeticus* Rambur, by original designation. (validation of *Iberocarterus* Csiki, 1932: 1029, *nomen nudum* because Csiki used Schauberger's manuscript name without designating a type species).

The 7 species of this Palaearctic genus need revision.

Carterus Dejean

Carterus Dejean, 1829b: 232. Type Species: *Carterus interceptus* Dejean, by original designation and monotypy.

Distomus Stephens, 1827: 37, 43. Type Species: *Distomus leachi* Stephens, (= *C. fulvipes* Latreille), designated by Hope, 1838: 81. (*Distomus* Stephens, 1827 is a junior homonym of *Distomus* Gaetner, 1774.).

Odogenius Solier, 1835: 660, 664. Type Species: *Aristus fulvipes* Latreille, designated by Stichel, 1923: 45.

This Palaearctic genus is here considered to contain 4 subgenera. Authors disagree as to the proper rank of most included taxa, and a revision of all taxa is needed.

subgenus *Microcarterus* Antoine

Microcarterus Antoine, 1959: 336, 337. Type Species: *Ditomus gracilis* Rambur, by original designation.

Antoine (1959) provided a key to the 2 species of this subgenus from southern Europe and northern Africa.

subgenus *Carterus* Dejean

Carterus Dejean, 1829b: 186, 232. Type Species: *Carterus interceptus* Dejean, by monotypy.

Csiki (1932) listed 10 species plus 3 *incertae sedis.* Reitter (1900) provided a key to the 10 species Csiki listed as *Carterus* (*C. ignoratus* Stichel was treated in the key as *C. angustipennis*

Piochard de la Brûlerie). Schauberger (1934a) described *C. boschi* and *C. kulgeri* from Syria. Antoine (1959) described *C. debilis* and provided a key to the other Moroccan species. A revision is needed.

subgenus *Odontocarus* Solier

Odontocarus Solier, 1835: 662. Type Species: *Ditomus robustus* Dejean, designated by Stichel, 1923: 45.

Macrocarterus Stichel, 1923: 49, 93. Type Species: *Ditomus cephalotes* Dejean, by original designation.

See Reitter (1900) for a key to 4 of the 7 species; a revision is needed.

Tschitscherinellus Csiki

Tschitscherinellus Csiki, 1906: 60. Type Species: *Ditomus cordatus* Dejean, by monotypy.

Antoine (1959: 346) declared *Tschitscherinellus* Csiki a *nomen nudum*, presumably because Csiki (1906: 60) provided no generic description. However, the name is valid because Csiki included *D. cordatus* Dejean, a previously described species, in *Tschitscherinellus*.

Reitter (1900) treated the 2 species, *C. cordatus* Dejean and *C. oxygonus* Chaudoir, as members of the subgenus *Odontocarus* and provided a key to them.

Ditomus Bonelli

Ditomus Bonelli, 1810. Tabula Synoptica. Type Species: *Scarites calydonius* Rossi, designated by Hope, 1838: 81.

Aristus Latreille, 1816: 190. Replacement name for *Ditomus* Bonelli. Type Species: *Scarites calydonius* Rossi, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus must have the same type species as the original one.

Sabienus Des Gozis, 1882: 290. Type Species: *Scarites calydonius* Rossi, subsequent designation by Des Gozis, 1886: 7.

Euditomus Acloque, 1896: 53. Type Species: *Scarites calydonius* Rossi, designated by Antoine 1959: 346.

Reitter (1900) provided a key to the 2 species, *D. calydonius* and *D. tricuspidatus* Fabricius.

Dixus Billberg

Dixus Billberg, 1820: 27. Type Species: *Scarites bucephalus* Olivier (second species listed) (= *A. clypeatus* Rossi), here designated.

Gonoxyaristus Stichel, 1923: 50, 95. Type Species: *Aristus capito* Serville, by original designation.

Antoine (1959) listed the Moroccan species under the generic name "*Ditomus*" and provided a key to them. Reitter (1900) provided a key to 7 of the 11 species (under the generic name *Aristus*, *A. interruptus* Fabricius was listed in the key as *A. opacus* Erichson). A revision of the species of this Palaearctic genus is needed.

Proditomus Schauberger

Proditomus Schauberger, 1934d: 232. Type Species: *Proditomus mirus* Schauberger, by original designation and monotypy.

This Palaearctic genus is monobasic.

Phorticosomus Schaum

Phorticosomus Schaum, 1863: 78. Type Species: *Phorticosomus felix* Schaum, by monotypy.

This genus contains 17 Australian species; all need revision.

Penthophonus Reitter

Penthophonus Reitter, 1900: 59. Type Species: *Penthus peyroni* Piochard de la Brûlerie, by monotypy.

Pentophonus Csiki, 1932: 1061 (typographical error).

This Palaearctic genus contains 5 species; all need revision.

Graniger Motschulsky

Graniger Motschulsky, 1864: 197. Type Species: *Graniger algirinus* Motschulsky (= *G. femoralis* Coquerel), by monotypy.

Carterophonus Ganglbauer, 1892: 341. Type Species: *Harpalus cordicollis* Serville, by monotypy.

Antoine (1959) provided a key to 2 of the 6 species of this Palaearctic genus; a revision is needed.

Incertae Sedis

Amphibia Perroud & Montrousier

Amphibia Perroud & Montrousier, 1864: 69. Type Species: *Amphibia pallipes*, by monotypy.

Csiki (1932: 1259) listed the monobasic Tahitian *Amphibia* as a synonym of *Stenolophus*. But *Amphibia* probably belongs in Bembidini rather than Harpalini since: Perroud and Montrousier (1864) placed *Amphibia* in the "Bembidionides"; and the generic description seems to be that of a bembidine as does the wet habitat suggested by the name "*Amphibia*".

Bottchrus Jedlička

Bottchrus Jedlička, 1935: 8. Type Species: *Bottchrus philippinus* Jedlička, by monotypy.

This monobasic genus is recorded from the Phillippines.

Haplaner Chaudoir

Haplaner Chaudoir, 1878: 514. Type Species: *Harpalus velox* Castelnau, by monotypy.

The 4 species of this Australian genus need revision.

Meroctenus Gemminger & Harold

Meroctenus Gemminger & Harold, 1868: 262. Replacement name for *Ctenomerus* Chaudoir. Type Species: *Ctenomerus crenulatus* Chaudoir, since Article 67(i) of the International Code of Zoological Nomenclature states that the replacement genus name must have the same type species as the original one.

Ctenomerus Chaudoir, 1843: 408. Type Species: *Ctenomerus crenulatus* Chaudoir, by monotypy. (*Ctenomerus* Chaudoir, 1843 is a junior homonym of *Ctenomerus* Schönherr, 1843.).

Gemminger and Harold's (1868: 262) replacement of *Ctenomerus* Chaudoir, 1843 by *Meroctenus* suggests that they were acting as first revisers to place Chaudoir's name as a junior homonym of *Ctenomerus* Schönherr, 1843. Therefore, I have treated Chaudoir's name as the junior homonym.

The monobasic *Meroctenus* is recorded from Sudan, Africa.

Orthogenium Chaudoir

Orthogenium Chaudoir, 1835: 432. Type Species: *Orthogenium femorale* Chaudoir, by monotypy.

This monobasic genus is recorded from Tahiti.

Smirnovia Lutshnik

Smirnovia Lutshnik, 1922: 62. Type Species: *Smirnovia tristis* Lutshnik, by monotypy.

This monobasic genus is recorded from Turkestan.

IDENTIFICATION OF HARPALINES

Species revisions are listed under the appropriate supra-specific taxa in the preceding section on Classification. The present section presents information of use in identifying harpalines to the genus level and also discusses major faunal studies of assistance in identification to the species level.

Genera and subgenera of the subtribe Anisodactylina may be identified with keys provided by Noonan (1973, 1974).

Genera and subgenera belonging to subtribes other than Anisodactylina may often be identified by use of one or more of the following primarily faunal works.

Nearctic. – Ball (1960b, 1963, 1968) and Lindroth (1968, 1969) may be used in conjunction to determine genera and subgenera from North America north of Mexico. And Lindroth (1968) provides excellent keys to Canadian and Alaskan species and to many United States ones. Ball (1960b, 1963, 1968) is of assistance in identifying some Mexican genera and subgenera.

Neotropical. – No reliable key exists to all the genera and subgenera of this region. The key in Ball (1960b, 1963, 1968) distinguishes some supra-specific taxa, and Bates (1882, 1884, 1891a) is often of assistance in identifying taxa from Central America and Mexico.

Palaearctic. – Reitter (1900) gives keys to most Palaearctic taxa known at that time; however the classification of some taxa treated by him has changed. Tschitschérine (1901) provides a key to Palaearctic genera then known while Jacobson (1907) has a key to the genera then known from Russia and Europe; the classification of many taxa treated by these authors has changed. Antoine (1959) provides a good key to Moroccan species, and Bedel (1895-1900) is of assistance in identifying some taxa from other areas of northern Africa. Habu (1973) has excellent keys to taxa found in Japan. Hansen's (1968) keys permit identification of Danish specimens to species. Jeannel's (1942) keys enable determination of French specimens to species and identification of some specimens from areas adjacent to France. Lindroth (1961, 1974) provides excellent keys to Swedish and British species respectively. Porta (1923) gives keys to Italian species.

Ethiopian. – Basilewsky (1950, 1951) has revised the harpalines of the Ethiopian Region and may be used for identification to the species level.

Oriental. – The harpaline fauna of this region is not well known. Unless the specimen at hand belongs to a genus also found in a faunal region for which there are adequate generic keys, the reader will have to compare the specimen with determined material and with original descriptions.

Australian. – The excellent keys of Darlington (1968) together with the taxonomic supplement (1971) may be used to identify New Guinea specimens to species. Darlington's keys may also be of assistance in sorting some Australian specimens to genus and occasionally to species. Chaudoir (1878) may be useful in identifying some Australian specimens. In general, the harpaline fauna of the Australian Region is poorly known.

ADDENDA (added in proof)

The Subtribe Stenolophina

Kaffovatus Clarke

Kaffovatus Clarke, 1972b: 395. Type Species: *Kaffovatus basilewskyi* Clarke, by original designation and monotypy.

Clarke (1972b) described this monobasic genus which occurs in Ethiopia.

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